Gobius scapulopunctatus de Beaufort

Gobius (Rhinogobius) scapulopunctatus de Beaufort, Zool. Anzeiger, bd. 39, p. 137, 1912 (type locality, Reef at Haroeka); Bijdrdge Dierkunde, afl. 19, p. 140, fig. 5, 1913 — Oort, Zool. Med. Rijks Mus. Nat. Hist. Leiden, deel 13, afl. 1-2, p. 5, 1930 (River Wai Katin 800 m. Boeroe); Tenogobius scapulopunctatus Herre, Journ. Pan-Pac. Res. Inst.; vol. 8, no. 4, p. 10, 1933 (Dumaguete); Fish. Herre Philippine Exped. 1931, p. 86 (1934) (Dumaguete). — Royas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 227, 1937 (reference).

1202

Gobius schultzei (Herre)

Rhinogobius schultzei Herre, Gobies of Philippines, p. 185, 1927 (type locality, Jabrica, Occidental Negros). — Rojas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 228, 1937 (reference).

1203

Gobius sealei (W. M. Smith)

Creisson sealei W. M. Smith, Proc. U. S. Nat. Mus., vol. 79, p. 41, 1931 (type locality, Menam Chao Phya at Paknam, Central Siam).

— Suvatti, Index Fish. Siam, p. 156, 1936 (reference).

Depth 4 1/2; head 3 1/3, wide as deep. Eye latero-superior, inclined upward and outward, 1 1/2 in snout, less than one diameter apart; maxillary reaches opposite front eye edge; mouth wide, oblique; teeth in 4 or 5 irregular rows in front part of each jaw, rows reduced in number at sides, outer row in each jaw enlarged and canine-like, largest backward curving pair at each side of lower jaw and some innermost

lower teeth also enlarged; lower jaw slightly longer, enlarged teeth projecting in front of upper jaw when mouth closed; cheeks tumified; tongue truncate. Scales 40 in lateral series; 13 transversely between second dorsal and anal origins; 34 predorsal forward slightly in advance of hind border of eyes; compact patch of small scales on upper border of opercle and cheeks and few scattered scales forward far as eye. Pectoral base scaly. D. VI — I, 10, third to sixth spines reach second dorsal when depressed, second dorsal with hind rays reaching caudal; A. I, 9, like second dorsal; caudal broad, rounded, length little greater than head without snout; pectoral longer than ventral; ventral I, 9, ~~little second~~ long as postorbital

part of head, frenum 1/4 of fin.
In alcohol back and sides light greenish, with vague darker green areas, many scales with pearly bluish spots. Under side whitish. Head dusky. dorsal, caudal and anal membranes dusky bluish. Pectoral dusky. Ventral bluish, with narrow white edge.

~~Leng~~

Siam. differs from Gobius validus Jordan and Seale in smaller scales, that species with 29 to 32 scales in lateral series, besides coloration.

El. V. N. M., no. 90318. Menam Chao Phya at Paknam, Central Siam. July 30, 1930. Dr. H. M. Smith. Length 150 mm.

1206

Gobius sella Steindachner

Gobius sella (Heckel) Steindachner, Sitzg. Ber. Akad. Wiss. Wien, vol. 83, pt. 1, p. 212 (218), 1881 (type locality, Borneo). — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 165, 1881 (1882) (Sarawak; Padang; Pantabug; Palandak).

Gobius
Priolepis
Gonogobius semidoliatus (Valenciennes) 1207

Gobius semidoliatus Valenciennes,
Hist. Nat. Poiss., vol. 12, p. 51,
1837 (type locality, Vanicolo) — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 31, 1861 (copied).
= Schmeltz, Cat. Mus. Godeffroy,
no. 5, p. 28, 1870 (Samoa; Tonga) — Klunzinger, Verh. zool. bot. Gesell. Wien, vol. 21, p. 415, 1871 (Red Sea).
— Schmeltz, Cat. Mus. Godeffroy,
no. 6, p. 14, 1877 (Huahine) — Günther, Journ. Mus. Godeffroy,
vol. 6, pt. 11, p. 174, pl. 109, fig. H, 1877 (Huahine, Society Is.; Samoa) — Schmeltz, Cat. Mus.
Godeffroy, no. 7, p. 46, 1879 (Samoa; Tonga) — Beaufort, Bijdr. Dierk.
Amsterdam, vol. 19, p. 139, 1913
(Saoneh, Waigiu).

— Day, Fishes of India, pt. 2, p. 295, pl. 59, fig.
6 (Andamans).

— Day, Fauna British India, Fishes, vol. 2,
p. 266, 1889.

— Weber, Siboga Exped., vol. 57, Fische, p. 462
(Labuan Badjo; Lamakera; Banguissiapo; Sawu;
Lirung; Jedan; Eastpoint of Timor).

— Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, Oct. 25, 1936, p. 61 (compiled).

Gymnothorax punctato-fasciatus Bleeker, Ned. Tyds. Dierk., vol. 1, 63, p. 167 (on Bleeker 1856).

Gymnothorax punctatofasciatus Borodin, Bull. Vanderbilt Mar. Mus., l. 1, art. 3, 1932, p. 72 (Bora Bora).

Lycodontis punctato-fasciatus Fowler, Mem. Bishop Mus., vol. 11, no. 1934, p. 390 (reference).

Muraena catenata (not Richardson) Bleeker, Act. Soc. Sci. Ind. Neer., mboina), vol. 1, 1856, p. 66 (type locality, Amboina).

Zonogobius semidoliatus Jordan and Seale, Proc. U. S. Nat. Mus., vol. 28, p. 796, 1905 (Negros); Bull. Bur. Fisher., vol. 25, p. 397, fig. 86, 1905 (1906) (Apia, Pago Pago). — Jordan and Richardson, Philippine Journ. Sci., p. 48, 1910 (reference). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, p. 319, 1911 (Borabora). — Snyder, Proc. U. S. Nat. Mus., vol. 42, p. 443 (Kagoshima); p. 415 (Okinawa). — Herre, Gobies of the Philippines, ~~no. 38, p. 29, 1927 (Howland Island)~~ p. 200, pl. 30, fig. 2, 1927 (Puerto Princesa; Jolo; Tawi-Tawi). — Fowler, Bull. Bishop Mus., no. 38, p. 29, 1927 (Howland I.); Mem. Bishop Mus., vol. 10, p. 414, 1928 (Society Islands; Borabora; Samoa). — Whitley, Journ. Pan-Pac. Res. Inst., vol. 3, no. 1, p. 13, Jan. – March 1928 (Santa Cruz Is.). — Fowler, Mem. Bishop Mus., vol. 11, no. 5, p. 363, 1931 (Fiji).

— Herre, Journ. Pan Pac. Res. Inst., vol. 6, no. 4, p. 14, Oct.-Dec. 1931 (New Hebrides); vol. 7, no. 1, p. 5, Jan.-March 1932 (Tahiti). — Fowler, Proc. U. S. Nat. Mus., vol. 81, art. 8, p. 5, 1932 (Ninafoou). — Fowler, Idem. Bishop Mus., vol. 11, no. 6, p. 444, 1934 (Rarotonga; Samoa; Suva; Tulagi). — Herre, Fishes Herre 1931 Philippine Exped., p. 87, 1934. (Dumaguete).

(— Herre, Journ. Pan-Pac. Res. Inst., vol. 8, no. 4, p. 11, 1933 (Dumaguete).

Priolepis semidoliatus Royas and Martin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 225, 1937 (reference).

Gobius semifasciatus Kner, Sitzg. Ber. Akad. Wiss. Wien, vol. 58, p. 326, pl. 5, fig. 15, 1868 (type locality, Samoan Islands).

Priolepis mica Hilgendorf, Symbol. Physicae, Hempr. Ehrenberg, p. 9, pl. 9, fig. 8, 1899 (type locality, Red Sea).

Depth 3 to 3 1/2; head 2 1/2 to 2 7/8, width 1 3/4. Snout 3 2/3 to 4 in head from snout tip; eye 2 4/5 to 3, greater than snout, greatly exceeds interorbital; maxillary reaches opposite front pupil edge, length 2 to 2 1/8 in head from snout tip; mouth moderate, obliquely vertical, mandible protruding; teeth biserial in jaws, rows widely spaced; upper jaw with inner row short and teeth much smaller, lower jaw with inner row much larger and extending all around jaw, outer row only anterior; tongue with front edge convex; interorbital 2 1/2 to 2 3/4 in eye, narrow. Gill rakers 3--10, lanceolate, half of gill filaments, which 3 in eye.

Scales 22 to 25--3 in median lateral series; 10 transversely. On cheek 2 short horizontal rows of minute close set papillae; row along preopercle flange and then forward upon under face of mandible; row vertically down across opercle c;ose behind preopercle. Scales with 12 or 13 basal radiating striae; apical denticles 16 to 21; circuli moderate.

D. VI--I, 9, second spine 1 1/2 in total head length or 2 2/5 in fish without caudal, second ray 1 1/4 to 1 7/8 in total head length; A. I, 9, second ray 1 2/5 to 1 7/8; caudal 1 1/10 to 1 1/8, rounded behind; least depth of caudal peduncle 2; ventral 2 2/15 to 2 2/3; pectoral 1 1/8, length 2 2/3 in fish with out caudal.

Brown, but little paleron under surface of head and belly. Two pale

bands, with dark line at each border, on snout; 4 extend down from eye across cheek vertically, most posterior arching up posteriorly over back with one parallel in front also to eye; one crosses predorsal, forks below over operacle and hind branch down behind pectoral or sometimes united with pale band extending down from spinous dorsal origin. On trunk 3 or 4 more below dorsals, alternating with narrower similar pale bands, all fading out below. Bands on head extend across iris to pupil. Dorsals brownish, other fins pale.

~~It.~~

It. U. S. N. M., no. 52051. Negros, Philippines. Dr. Bashford Dean. Length 28 mm.

It. U. S. N. M., no. 52233. Samoa, Bureau of Fisheries (02421 and 07006). Length 16 to 28 mm. Six examples.

It. U. S. N. M., no. 66086. Borabora, Society Islands. ~~Bureau of~~ U. S. Fish Comm. (05921). Albatross Explorations 1899-1900. November 17, 1899. Length 18 mm.

It. U. S. N. M., no. 71488. Yanagashima Island, Japan. Bureau of Fisheries. Albatross Expedition 1906. Length 24 to 27 mm. Four examples.

It. U. S. N. M., no. 91915. Hinafou Island, Tonga Group. August 27, 1930. Lieut. H. C. Kellers. Length 29 mm.

One example. Great Tobea Island. December 15, 1909. Tide pool. Length 24 mm.

Three examples. D. 5147. Sulade Island (E.) N. 3° E., 8.40 miles (lat. 5° 41' 40" N., long. 120° 47' 10" E.), Sulu Archipelago, vicinity of Siasi. In 21 fathoms. February 16, 1908. Length 15 to 20 mm.

One example. D. 5174. Jolo Light, E. 2.60 miles (lat. 6° 03' 45" N., long. 120° 57' E.), vicinity of Jolo. In 20 fathoms. March 5, 1908. Length 21 mm.

Gobius semifrenatus Macleay

Gobius semifrenatus Macleay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 598, May 20, 1881 (type locality, Port Jackson, New South Wales). — McCulloch, Austral. Mus. Mem., No. 5, pt. 3, p. 371, Nov. 28, 1929 (reference).

Arenigobius semifrenatus Whitley, Australian Zoologist, vol. 6, pt. 2, p. 123, Jan. 14, 1930 (reference).

Gobius serangoonensis (Herre and Myers)

Vaimosa serangoonensis Herre and Myers, Bull. Raffles Mus., No. 13, p. 40, pl. 2, 1937 (type locality, Creek at Serangoon, Singapore Island).

Depth 4 1/2 to 4 2/3; head 3 3/4 to 4. Snout 3 1/3 to 3 3/5 in head; eye 3 1/3 to 3 3/5, subequal with snout, greater than interorbital; maxillary reaches 1/2 in eye, length 2 1/8 in head; mouth terminal or somewhat inferior, jaws equal; teeth minute, in band of 3 rows in each jaw; tongue end slightly rounded; interorbital 2 in eye, which invades upper profile of head.

Scales 24 or 25 in lateral series,

and 2 or 3 more on caudal base; 10 transversely, 7 predorsal forward to eyes. Opercle with 6 or 7 scales. Preopercle with 2 longitudinal rows of sensory papillae; vertical row and very short cross row on opercle.

D. VI — I, 7, third spine 1 1/4 in head, first branched ray 1 1/2, penultimate ray 1 1/3; A. I, 7, first branched ray 2, penultimate ray 1 3/4; caudal 3 3/7 in rest of fish, convex behind; least depth of caudal peduncle 1 3/4 in head; pectoral 1; ventral 1 2/5. Anal papilla slender, flattened, 1 1/4 in eye.

In alcohol pale yellowish, upper half freckled with reddish brown spots which form 5 vaguely defined cross bands. Many scales outlined by a dark brown stripe. Along middle of side longitudinal row

of 4 poorly defined elongated dark brown blotches and small spot at caudal base. Dark brown bar extends from eye diagonally downward across cheek. Interorbital space and snout dull dusky. First dorsal with median dark brown cross band, with white band below and above, and second dark brown band across upper part. Second dorsal with cross bands of dark spots alternating with white stripes. Caudal with 6 transverse rows of dark spots. Anal and ventrals dusky. Pectorals clear.

Length ~~27~~ 18 or 28 mm. (Herre and Myers.)

Malaya.

1220

Gobius siamensis (Fowler)

Vaimosa siamensis Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 157, fig. 125, 1934 (type locality, Bilom Canal, Bangkok). — Smitti, Index Fish. Siam, p. 156, 1936 (reference).

Gobius similis (Gill)

Rhinogobius similis (Gill, Proc. Acad. Nat. Sci. Philadelphia, 1859, p. 145 (type locality, Japan). — Jordan, Tanaka, Snyder, Journ. College Sci. Tokyo, vol. 33, art. 1, p. 342, fig. 290, 1913 (reference). — Chu, Biol. Bull. St. John's Univ., No. 1, p. 191, Jan. 1931 (reference). — Berg, Point, Easy Doucet U. R. S. S., pt. 2, p. 656, 1933 (Amur). — Tanaka, Jap. Fish., Life Colours, 1933, No. 321.

Gobius similis Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, p. 372, 1900 (Shikawa-Ken). — Tomiyama, Jap. Journ. Zool., vol. 7, No. 1, p. 68, fig. 22, Oct. 25, 1936 (Hokkaido to Formosa; Korea).

— Mori, Journ. Chosen Nat. Hist. Soc., No. 11, p. 9, 1930.

Ctenogobius similis Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, p. 759, pl. 35, 1901 (Tsushima; Tokyo; Nagasaki; L. Biwa; Aomori; Ogo; Kurume; Kawatana); vol. 24, p. 56, 1901 (above materials). — Jordan and Metz, Mem. Carnegie Inst., vol. 6, No. 1, p. 56, pl. 70, fig. 3, June 1913 (Tsushima, Korea). — Snyder, Proc. U. S. Nat. Mus., vol. 42, p. 742, 1912 (Aikawa; Yamaguchi).

Salmo variegatus Lacepede, Hist. Nat. Poiss., vol. 5, 1803, p. 157, pl. 3, fig. 3 (type locality,

Saurus variegatus Quoy and Gaimard, Voy. Uranie, Zool., 1824, p. 223 pl. 48, fig. 3 (Maui).

Synodus variegatus Seale, Occas. Pap. Bishop Mus., vol. 1, no. 5, 1902, pp. 15, 16, 20 (Hilo; Honolulu).--Norman, Proc. Zool. Soc. London, 1935 p. 106 (Hawaiian Is.).

Saurus varius Schmeltz, Cat. Mus. Godeffroy, no. 5, 1874, p. 35 (Tahiti); no. 7, 1879, p. 57 (Society Is.).--Günther, Journ. Mus. Godeffroy, vol. 8, pt. 16, 1909, p. 375 (Hawaii; Society Is.;Taumotus; Tahiti).

Synodus varius Steindachner, Denks. Akad. Wiss. Wien, vol. 70, 1901, p. 513 (Honolulu).--Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 433 (Honolulu).--Snyder, op. cit., vol. 22, 1902 (1904), p. 521 (Honolulu).--Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 28, 1904, p. 125 (Honolulu).--Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, 1903 (1905), pt. 1, p. 63, pl. 2 fig. 14 (Hilo; Honolulu).--Gilbert, op. cit., pt. 2, 1903 (1905), p. 588 (off Molokai; Avau Channel; Bird I.; in 20 to 73 fathoms).--Seale, Occas. Pap. Bishop Mus., vol. 4, no. 1, 1906, p. 5 (Mangareva, Gambier I.).

Synodus dermatogenys Fowler, Proc. Acad. Nat. Sci. Phila., 1911 (191 p. 566, fig. 3 (type locality, Hawaiian Islands).

1222

— Mori, Hand Lit Manchur. East. Mongol. Vertebrata, p. 181, July 1927 (reference).

Muraena petelli Bleeker, Nat. Tyds. Ned. Indie, vol. 11, 1856, p. 84 (type locality, Malang, Java).

Gymnothorax petelli Jordan and Evermann, Bull. U. S. Fish Comm., vol 23, pt. 1, 1903 (1905), p. 100, fig. 27 (Honolulu).

Lycodontis petelli Fowler, Bishop Mus. Bull.,no. 28, 1927, p. 6 (Tongareva; Baker I.; Honolulu); Mem. Bishop Mus., vol. 10, 1928, p. 54 (Honolulu; types of G. leucacme and G. waialuae).

Gymnothorax leucacme Jenkins, Bull. U. S. Fish Comm., vol. 22, 1902 (1903), p. 427, fig. 7 (type locality, Honolulu).--Snyder, op. cit., vol. 22, 1902 (1904), p. 518, pl. 6, fig. 1 (Honolulu).

Gymnothorax waialuae Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 520, pl. 6, fig. 11 (type locality, Waialua Bay, Oahu).--Jordan and Evermann, op. cit., vol. 23, pt. 1, 1903 (1905), p. 97, pl. 13, fig. 1 (type).

Rhinogobius nagoyae Jordan and Seale, Proc. U. S. Nat. Mus., vol. 30, p. 147, fig. 5, 1906 (type locality, Nagoya, Japan). — Jordan, Tanaka, Snyder, Journ. College Sci. Imp. Univ. Tokyo, vol. 33, art. 1, p. 342, fig. 292, 1913 (reference).

~~Rhinogobius~~.

Ctenogobius kurodai Tanaka, Annot. Zool. Japan., vol. 7, pt. 1, p. 32, 1908 (type locality, Tokyo).

Rhinogobius kurodai Jordan, Tanaka, Snyder, op. cit., p. 344 (reference).

Ctenogobius katonis Tanaka, op. cit., p. 35 (type locality, Kanazawa, Kaga).

Rhinogobius katonis Jordan, Tanaka, Snyder, op. cit., p. 344 (reference).

Trachinocephalus myops (Schneider).

Salmo myops Schneider, Syst. Ichth. Bloch, 1801, p. 421 (type local St. Helena) (on Forster).

Saurus myops Vaillant, Bull. Soc. Philom., Paris, ser. 7, vol. 11, 1886-87, p. 53 (Tahiti).

Trachinocephalus myops Jenkins, Bull. U. S. Fish Comm., vol. 22, 190 (1903), p. 433 (Honolulu).--Snyder, op. cit., vol. 22, 1902 (1904), p. p. 521 (Honolulu; Hanalei Bay; Kauai).--Jordan and Evermann, op. cit., vol. 23, 1903 (1905), p. 62, fig. 13 (Hilo; Honolulu).--Fowler, Bishop Mus. Bull., no. 22, 1925, p. 23 (Honolulu).--Fowler and Ball, op. cit., no. 26, 1925, p. 7 (Lahain Maui).--Fowler, Mem. Bishop Mus., vol. 10, 1928, p. 64, pl. 3 C (Honolulu; Maui); vol. 11, no. 6, 1934, p. 391 (Hawaii).

Trachinocephalus limbatus Seale, Occas. Pap. Bishop Mus., vol. 1, no 5, 1902, p. 17 (Honolulu).

Ctenogobius candidius Regan, Ann. Mag. Nat. Hist. London, ser. 8, vol. 1, p. 153, 1908 (type locality, Lake Candidius, Formosa).

Rhinogobius candidius Oshima, Ann. Carnegie Mus., vol. 12, nos. 2-4, p. 295, Dec. 15, 1919 (Bobusekibaku; Heirinbi; Tozen R.; Shinchiku; Daiko R.; Taito R.). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 62, art. 2, p. 71, 1922 (Lake Candidius).

Ctenogobius bedfordi Regan, Proc. Zool. Soc. London, p. 625, 1908 (type locality, Chong-ju, Corea).

Rhinogobius carpenteri Veale, Philippine Journ. Sci., vol. A 4, p. 535, 1909 (type locality, Trinidad River at Baguio. — Roxas and Quarteri, Departm. Agric. Comm., Tech. Bull. 6, p. 227, 1937 (reference).

Tukugobius carpenteri Herre, Gobies of Philippines, p. 122, pl. 29, fig. 2 (types; Rio Chico, Bontoc; Balete Pass). 1927

Eulamia galapagensis (Snodgrass and Heller).

Carcharias galapagensis Snodgrass and Heller, Proc. Wash. Acad. Sci., vol. 6, Jan. 31, 1905, p. 343 (type locality, Galapagos Islands).

Eulamia galapagonensis Fowler, Proc. Fourth Pac. Sci. Congr. Java, 1929, p. 193 (reference)(error).

Eulamia galapagensis Fowler, Proc. U. S. Nat. Mus., vol. 80, art. 6, 1932, p. 1 (Chatham Bay, Cocos I.; Conway Bay, Indefatigable I. and Wreck Bay, Chatham I., Galapagos Is.).

Carcharinus galapagensis Herre, Field Mus. Publ., No. 353, Zool. ser. vol. 21, April 15, 1936, p. 22 (Tagus Cove, Albemarle I., Galapagos Is.; Cocos I.).

Eulamia lamiella (not Jordan and Gilbert) Jordan and Bollman, Proc. U. S. Nat. Mus., vol. 12, 1889, p. 179 (Chatham I.).

Eulamia (Platypodon) platyrhynchus (part) Gilbert, Proc. U. S. Nat. Mus., vol. 14, 1891, p. 543 (Galapagos Is.).

Carcharhinus platyrhynchus Jordan and Evermann, Bull. U. U. S. Nat. Mus., No. 47, pt. 1, 1896, p. 36 (part).

1225

Rhinogobius towerbyi Ginsberg,
Proc. U. S. Nat. Mus., vol. 54, p. 7.
Oct. 18,
100, 1917 (type locality, Yalu River).
— Chu, Biol. Bull. St. John's Univ.,
no. 1, p. 163, Jan. 1931 (reference). —
Towerby, Nat. in Manchuria, vol. 4, p.
119, 1930 (Yalu R.). —

Mori, Hand List. Manchur. East. Mongol.
Vert., p. 180, July 1927 (reference).

Rhinogobius taiwanus Oshima, Ann.
Carnegie Mus., vol. 12, nos. 2-4, p. 298,
pl. 53, fig. (uppermost), Dec. 15, 1919 (type locality,
Shinchiku; Tamsui River near Shinten;
Daksui River; Holun River; Jitsuget-
sutan, Lake Candidius; Daimansho,
Ranto; Bokusekibakan; Inzanpo,
Giran).

Carcharias melanopterus Quoy and Gaimard, Voyage Uranie, Zool., 824, p. 194, pl. 43, figs. 1 and 2 (type locality, Waigiu; Mariannes).—treets, Bull. U. S. Nat. Mus., No. 7, 1877, p. 94 (Christmas I.; Washington ., Fanning Group).—Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 513 (Honolulu).—Jordan and Evermann, op. cit., vol. 23, pt. 1, 1903 (1905), . 38, pl. 1 (Honolulu).—Günther, Journ. Mus. Godeffroy, vol. 9, pt. 17, 910, p. 480 (Hawaii).—Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 6, 1911, p. 242 (Fakarava, Taumotu).

Carcharhinus melanopterus Fowler, Proc. Acad. Nat. Sci. Philad., 1901, p. 325 (Thornton I.).

Carcharinus melanopterus Jordan and Jordan, Mem. Carnegie Mus., ol. 10, No. 1, 1922, p. 4 (Hawaii).—Herre, Field Mus. Publ., No. 353, Zool. er., vol. 21, April 15, 1936, p. 23 (Nukuhiva, Marquesas Is.; Tahiti).

Eulamia melanopterus Fowler, Bishop Mus. Bull., No. 38, 1927, p. 3 Christmas I.); Mem. Bishop Mus. Honolulu, vol. 10, 1928, p. 20 (Palmyra I.; onolulu; Taumotus; Fanning I.).

Eulamia melanoptera Fowler, Proc. Fourth Pac. Sci. Congr. Java, 929, p. 492 (reference).

1226

Rhinogobius formosanus Oshima, Ann. Carnegie Mus., vol. 12, nos. 2-4, p. 300, pl. 53, fig. 2 (middle), Dec. 15, 1919 (type locality, Shinchiku).

Rhinogobius fluviatilis Tanaka, Fig. descr. Fish. Japan, vol. 34, ~~Ref~~ p. 641, pl. 151, figs. 417 and 418, Feb. 8, 1925 (type locality, Himeji, Province of Harima).

Rhinogobius buccalentus Herre, Fish. Herre Philippine Exped. 1931, p. 83 (1934) (Bayombong). — Royas and Quartin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 227, 1937 (reference).

Sukugobius buccalentus Herre, Gobies of Philippines, p. 121, pl. 8, fig. 4, 1927 (type locality, Creek at Santa Fe, Nueva Vizcaya Province, Luzon; Dupax; barrio Diviguen; creek on Mount Moises).

Sukugobius philippinus Herre, op. cit., p. 124 (type locality, Iriid River, Santa Ines, Rizal Province; Banaban River; Kalo; Kalumpang River; 3 bo Creeks; Hanang River; Hinagianan River;

Dalophis rupelliae Mc Clelland, Calcutta Journ. Nat. Hist., vol. 5, 1845, p. 213 (on Rüppell).

Gymnothorax rupelliae Kendall and Goldsborough, Mem. Mus. Comp. Zool vol. 26, 1911, p. 247 (Rangiroa, Taumotus).

Lycodontis ruppelli Fowler, Mem. Mus. Comp. Zool., vol. 10, 1928, p. 55 (Rangiroa material).

Muraena reticulata (not Bloch) Rüppell, Atlas Reise Nordl. Afrika, Fische, 1828, p. 117.

Fabrica; San Jose).

Rhinogobius philippinus Rojas and Martin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 228, 1937 (reference).

Rhinogobius similis lindbergi Berg, Poiss. Eaux Douces Et. R. S. S., pt. 2, p. 654, figs. 610-612, 1933 (type locality, Amur River).

Rhinogobius fukushimai Imori, Rep. First Sci. Exped. Manchoukuo, sect. 5, pt. 1, p. 55, pl. 21, fig. 2, dec. 1934 (type locality, Pei-ho at Kopei-Ku).

Rhinogobius aestivaregia Imori, op. cit.; p. 56, pl. 21, figs. 3, a-b (type locality, Summer Palace of Jehol).

Muraena flavomarginata Rüppell, Atlas Reis. Nord. Afrika, Fische, 1828, p. 119, pl. 30, fig. 3 (type locality, Red Sea).--Günther, Rep. Voy. Challenger, vol. 1, pt. 6, 1880, p. 61 (Honolulu); Journ. Mus. Godeffroy, vol. 9, pt. 17, 1910, p. 417 (Hawaiian Is.).

Gymnothorax flavimarginatus Jordan and Evermann, Bull. U.S. Fish Comm., vol. 23, pt. 1, 1903 (1905), p. 99, pl. 17 (Honolulu; Hilo; Waikiki).

Gymnothorax flavomarginatus Seale, Occas. Pap. Bishop Mus., vol. 4, pt. 1, 1906, p. 9 (Raiatea, Society Is.).

Lycodontis flavimarginata Fowler, Bishop Mus. Bull., no. 22, 1925, p. 23 (Honolulu); no. 38, 1926, p. 6 (Honolulu).

Lycodontis flavomarginatus Fowler, op. cit., no. 38, 1927, p. 6 (Honolulu); Mem. Bishop Mus., vol. 10, 1928, p. 55, pl. 2 C (Honolulu; Raiatea; types of Gymnothorax thalassopterus; Society Is.); vol. 11, no. 5, 1931, p. 317 (Honolulu).

Gymnothorax thalassopterus Jenkins, Bull. U. S. Fish Comm., vol. 22 1902 (1903), p. 427, pl. 2 (type locality, Honolulu).--Snyder, op. cit., vol. 22, 1902 (1904), p. 518 (Honolulu).--Jordan and Snyder, Proc. U. S. Nat. Mus. vol. 27, 1904, p. 942 (Honolulu).

1228

Depth 5 1/5 to 5 1/2; head 2 7/8 to 3 3/4, width 1 1/4 to 1 2/5. Snout 2 4/7 to 3 in head; eye 4 1/2 to 5 1/2, 1 3/4 to 2 in snout, greater than interorbital; maxillary reaches 7/8 to eye to 1/6 in eye, length 2 1/5 to 3 in head; mouth low, little inclined, jaws subequal or lower slightly included in upper; teeth in bands in jaws, outer upper row usually little enlarged, lower outer row variably little enlarged or smaller; interorbital narrow, 1 1/2 to 2 in eye, last entering upper profile of head.

Scales 36 to 44 in lateral series; 12 to 16 transversely. Head usually naked, with predorsal scalation forward over opercles. Prepectoral region scaly or naked. Scales on body firmly ctenoid, largest on tail posteriorly.

D. VI or VII — I, 8 or 9, second spine 1 3/4 to 2 in head, second ray 2 to 2 3/4; A. I, 7 to 9, second ray 2 2/3 to 3 1/5, penultimate ray 2 1/5 to 2 1/2; least depth of caudal peduncle 2 to 2 7/8, pectoral 1 1/5 to 1 2/5; ventral 1 3/4 to 2 1/5. caudal 1 1/8 to 1 2/5, convex behind; anal papilla 1/2 to 2 in eye, pointed.

In alcohol color dark brown above, usually clouded or blotched with darker, sometimes spotted more or less on back. Sometimes dark lateral axial line or stripe, which may be broken as spots. Fins usually dark to slate black or variegated with darker spots, and borders sometimes pale even to whitish.

Philippines, Formosa, Japan, Korea, Manchuria. Evidently a very variable polymorphic species.

U. S. N. M., no. 49505. Shikawaken, Japan. K. Kishinouye. Length 51 mm.

U. S. N. M., no. 49914. Shikawaken, Japan. K. Kishinouye. Stanford University. Length 52 to 62 mm. Five examples.

U. S. N. M., no. 49949. Lake Biwa, Matsubara, Japan. D. S. Jordan and J. O. Snyder. Length 25 to 60 mm. 102 examples.

U. S. N. M., no. 49960. Yokohama, Japan. D. S. Jordan and J. O. Snyder. Length 32 to 61 mm. Eight examples.

U. S. N. M., no. 59576. Lake Biwa, ~~Matsubara~~ Sakagawa, Japan. April 22, 1903. Dr. H. M. Smith. Length 45 to 60 mm. Eight examples.

U. S. N. M., no. 71453. Yamaguchi, Japan. Bureau of Fisheries. Albatross Explorations. Length 38 to 68 mm. Eighteen examples.

1231

U. S. N. M., no. 71454. Aikawa, Ribuzen, Japan. Bureau of Fisheries. Albatross Expedition 1906. Length 27 to 54 mm. Sixty-eight examples.

U. S. N. M., no. 84172. Lake Candidius Southern Formosa. September 25 to October 10, 1907. Hans Sauter. Length 33 to 45 mm. Eight examples. As Rhinogobius candidius.

U. S. N. M., no. 87127. Creek near Bangino, Mountain Province, Luzon, Philippines. 1917. E. W. Taylor. Length 57 to 73 mm. Seven examples. Cas

Rhinogobius philippinus.

1234

Gobius siitensis (Herre)

Tamanka siitensis Herre, Gobies of Philippines, p. 220, pl. 17, fig. 3, 1927 (type locality, Lake Siit, a small, deep, fresh-water crater lake beside the sea on the north coast of Jolo Island); Fishes Herre Philippine Exped. 1931, p. 87, 1934 (Lake Siit). — Roxas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 237, 1937 (reference).

Gobius quinquestrigatus Bleeker

Gobius quinquethigatus Bleeker, Journ. Indian Arch., Vol. 2, p. 633, 1848 (type locality, Bima, Sumbawa (error).

Gobius quinquestrigatus Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 29, 1849 (Bima); Nat. Tijds. Ned. Indië, vol. 5, p. 82, 1853 (Color).

(1235

depth 4 2/5 to 4 2/3; head 2 2/3 to 2 3/4, width 1 2/5 to 1 4/5. Snout 4 in head; eye 5 to 6, 1 1/4 to 1 2/5 in snout, 1 1/5 to 1 7/8 in interorbital; maxillary reaches 3/7 to 4/7 in eye, length 2 1/8 to 2 1/3 in head; teeth simple, villiform, uniforms, conic, close set, in bands in jaws, with 4 teeth transversely to be anteriorly and narrowing posteriorly; interorbital 4 3/4 to 5 1/4, low, depressed. Gill rakers 5 + 13, short, obtuse, small, 1/3 of gill filaments, which half of eye.

Scales 48 ~~[illegible]~~ in axial lateral series and 4 more or latter; 15 scales transversely between soft dorsal and anal origins; predorsal region naked or with 18 to 20 scales forward about 3/4 far as space to eye. Opercles scaly, head otherwise largely naked. Scales on chest,

breast, middle of belly and caudal base small. Opectoral region and pectoral base scaleless. Scales with 20, parallel, well waved basal striae; circuli moderate. Cheeks with 4 parallel horizontal lines of minute papillae, usually lower 2 with vertical intersecting line. Several short bars on preorbital. Bar obliquely across opercle and vertical row down along its front edge. Line down along hind edge of preopercle and forward on lower face of mandible each side. Line from above nostrils, over eye then back to supriscapula.

D. VI—I, 8, spines rather flexible, with third spine 3 1/8 to 3 1/4 in head, first branched ray 2 1/2 to 3; D. I, 8, first branched ray 3 1/5 to 3 1/3; caudal 1 1/4 to 1 1/2, convex behind; least depth of caudal peduncle

2 7/8 to 3 1/8; pectoral 1 1/2 to 1 2/3, rays 17, none detached or silk-like; ventral I, 5, fin 1 3/4 to 2 in head. Anal papilla well developed, compressed, pointed, 7/8 long as eye.

Brown, some specimens much darker to blackish brown above. Iris gray. Under surfaces of head and body little paler. Often diffuse dark to blackish area on opercle. Fins all brownish, spinous dorsal nearly black. Both dorsals with white submarginal band, contrasted and quite distinct. In large examples all fins more or less blackish.

Philippines.

1238

U. S. N. M., no. 87128. Lake Siit, Jolo Island, Sulu Archipelago. June 11, 1921. Dr. A. C. Ferre. Length 45 to 82 mm. Twelve examples.

1239

Gobius spilopleura (H. M. Smith)

Vaimosa spilopleura H. M. Smith,
Journ. Siam Soc. Nat. Hist.; vol. 9,
no. 2, p. , Dec. 15, 1933 (type
locality, Canthabun Estuary). —
Suvatti, 2nd Index Fish. Siam, p. 156,
1936 (Bangpakong R.; Bangkok;
Chanburi).

Gobius sumatranus Bleeker

Gobius sumatranus Bleeker, Nat. Tijds. Ned. Indie, vol. 7, p. 83, 1854 (type locality, Padang, Sumatra); Act. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 42, Feb.-Aug. 1859 (Benkulen). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 31, 1861 (copied).

— Herre, Fishes Herre 1931 Philippine Exped., p. 82, 1934 (Culion). — Rojas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 224, 1937 (reference).

depth 8, body elongate, anteriorly cylindrical, posteriorly compressed; head 4, pointed, depressed, width 2. Snout pointed, little convex; eye 4 and over in head, placed in front half of head, close to opposite eye; maxillary reaches below front half of eye; mouth oblique, lower jaw little shorter; teeth in jaws villiform, outer row enlarged with 14 to 16 above canine and 8 to 10 below anteriorly canines; postocular and cheek with conspicuous longitudinal grooves.

Scales 25 in lateral series; 15 predorsal. Head naked.

D. VI — I, 9 or I, 10, bases close, flexible spines lower than soft dorsal, last with first ray (spine) flexible, fin pointed behind and not lower than body depth; A. I, 8 or I, 9, lower than soft dorsal; caudal obtuse, strongly convex, length 6 in body; pectoral obtusely rounded rays 17, with some of upper silky;

ventral rays I, 5, acutely rounded. Anal papilla conic.

Body above brownish green, below ~~yellow~~ golden. Scales of body with bright-green and brown spots. Fins golden, more or less finely variegated with brown. Caudal and ventral below with transverse brown bands.

Length 64 mm. (Bleeker.)

Sumatra. Said to be near (Gobius phaiosoma Bleeker.

Gobius suppositus Sauvage

Gobius suppositus Sauvage, Bull. Soc. Philom. Paris, ser. 7, vol. 4, f. 41, 1880 (type locality, Swan River, Western Australia). — McCulloch, Austral. Mus. Mem., No. 5, pt. 3, p. 370, Nov. 28, 1929 (reference).

1242

(Gobius tagala (Herre)

Tamanka tagala Herre), Gobies of Philippines, p. 222, 1927 (type locality, Malabon, Rizal Province; Litambai). — Royas and Martin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 237, 1937 (reference).

Gobius tamarensis Johnston

Gobius tamarensis Johnston, Proc. Roy. Soc. Tasmania, 1882, p. 120 (1883) (type locality, Tamar River, Tasmania, fresh water). — McCulloch, Austral. Mus. Mem., No. 5, Pt. 3, p. 370, Nov. 28, 1929 (reference).

1244

Gobius tasmanicus Whitley

Gobius tasmanicus Whitley, Proc. Roy. Soc. Tasmania, 1928, p. 52, (publ. Jan. 16, 1929) (type locality, Launceston, Tasmania). Inc McCulloch, Austral. Mus. Mem., No. 5, pt. 3, p. 370, Nov. 28, 1929 (reference).

1244a

Gobius tenuicirris Bleeker

1056

Gobius malayanus (Herre)

Luisagnilius malayanus Herre,
Raffles Mus. Bull., No. 12, May 1936
p. 11, pl. 8,
(type locality, Pulau Ubin, near
Singapore).

Depth 7 1/2, body elongate, compressed; head 5 1/3, obtuse convex, width 1 3/4. Eye 3 1/2 in head, advanced, close to opposite eye; mouth oblique, reaches below anterior margin of eye; teeth villiform, pluriserial, upper outer row enlarged, no canines.

Scales 16 to 20 in lateral series. D. VI - I, 10, fins equally high as body depth, second dorsal and anal pointed; A. I, 10; caudal 3 in body; pectoral 6, rays 16; ventral rays I, 5, length 6 in body. Anal papilla conic.

Color of body green. First dorsal black, pectorals and caudal green, other fins brown.

Length 45 mm. (Bleeker.)

1245

Gobius tessellatus (Herre)

Vaimosa tessellata Herre, Gobies of Philippines, p. 153, pl. 12, fig. 1, 1927 (type locality, Tituod River, a mountain torrent at Kolambugan, Lanao Province, Mindanao).

Lungilogobius tessellatus Royas and Martin, Departm. Agric. Comm. Manila Techn. Bull. 6, p. 235, 1937 (reference):

Gobius ubinensis (Herre and Myers)

Yamanka ubinensis Herre and Myers, Bull. Raffles Mus., No. 13, p. 41, pl. 3, 1937 (type locality, Pulau Ubin or Ubin Island, a small isle in the channel between Singapore and Johore).

Depth 5 1/4; head 3 1/5, width 1 1/2. Snout 4 in head; eye 4, equals snout, greatly exceeds interorbital; maxillary reaches opposite front eye edge, length 3 in head; mouth cleft oblique, begins in front little below level of lower eye edge; teeth minute; interorbital 2 1/5 in eye, which enters upper profile of head.

Scales 36 in lateral series and 2 more on caudal base; 14 transversely, 22 predorsal forward

nearly to eyes. Opercles scaled. Two longitudinal rows of sensory papillae cross preopercle, with another along its lower margin; opercle with vertical row anteriorly and 2 transverse rows.

D. VI — I, 8, third spine 2 1/3 in total head = length, first branched ray 2 1/10, penultimate ray 2; A. I, 8, first branched ray 2 7/8, = penultimate ray 2 1/10; caudal 3 2/5 in rest of fish, cavey behind; least depth of caudal peduncle 2 1/10 in head; pectoral 1 1/2; ventral 1 4/5. Anal papilla half long as eye.

In alcohol ground color uniform light brown, with 8 poorly defined darker brown transverse stripes over back, 2 before and 2 under first dorsal, 3 under second dorsal, and 1 on caudal peduncle.

Along sides of trunk many dark brodon spots irregularly arranged, often forming cubroed bars, and 2 conspicuous spots on caudal base. Dark brown stripe from eye to upper lip; another from eye diagonally across preopercle and third curved one on lower part of cheek below eye; brown flecks over opercle and nape. First dorsal whitish, flecked with blackish brown anteriorly and above, and with white margined, black ocellus on posterior part. Second dorsal cross barred by 4 rows of dark brown spots. Caudal handsomely barred by many rows of dark brown spots on upper 3/4, lower portion clear. Pectoral clear. Other fins more or less dusky.

Length 29mm. (Herre and Myers.)
Malaya.

1249

Gobius umbra (Herre)

Tamanka umbra Herre, Gobies of Philippines, p. 223, 1927 (type locality, Palawan). — Roxas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 237, 1937 (reference).

1250

due example. Tablayan Bay, in Estero, Mindoro, December 13, 1908. Length 105 mm.

Gobius validus (Jordan and Veale)

Creisson validus Jordan and Veale, Bull. Bur. Fisher., vol. 26, p. 43, fig. 16, 1906 (type locality, Cavite). Jordan and Richardson, Philippine Journ. Sci., p. 48, 1910 (reference). Herre, Gobies of Philippines, p. 139, pl. 10, fig. 2, 1927 (Mission; Calumpit; Malabon; Manila; Cavite; Laguna de Bay; Polo Plantation; San Jose; Capiz; Iloilo; Dumangas; Molo; Silka; Bintoan; Coron; Cebu; Cabalian; Davao; type); Fisher Herre 1931, Philippine Exped., p. 82, 1934 (Malabon; Laguna de Bay; Capiz; Dumaguete; Jolo). Rojas and Martin, Department. Agric. Comm. Manila, Techn. Bull. 6, p. 236, 1937 (reference).

Gobius validus Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 71, fig. 23, 1936 (Misaki).

Gobius variabilis Steindachner

Gobius variabilis Steindachner, Abhandl. Senckenberg. Nat. Gesell., vol. 25, p. 430, pl. 18, fig. 4 b, 1900 (type locality, Ternate). — Bleeker, Bijd. Dierk. Amsterdam, vol. 13, p. 137, 1913 (Naoneta); — Fowler, Mem. Bishop Mus., vol. 10, p. 404, 1928 (copied).

— Weber, Siboga Exped., vol. 57, Fische, p. 458, 1913 (Labuan Pandan; Ambon; Timor).

1253

Gobius vexillifer Fowler

Ctenogobius vexillifer Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 89, p. 252, fig. 282, May 19, 1937 (type locality, Bangkok, Siam).

(1259)

Depth 4 4/5, head 3 1/3, width 1 1/4; snout 4 3/5 in head from snout tip; eye 4 3/5, impinges on upper profile of head, equals snout, greatly exceeds interorbital; maxillary reaches opposite front eye edge, length 3 4/5 in head from snout tip; mandible well protruded in front, with broad fleshy lips, band of small pointed teeth in each jaw, with 5 or 6 lower ones enlarged toward canines; tongue, little enlarged toward front; interorbital rounded, three in front; interorbital narrow, width about 1/4 of eye, concave; gill opening extends forward about last half of postocular.

Batracheleotris fasciatus new species

Scales 27 + 2 in median lateral series; 11 transversely at soft dorsal and anal origins, 10 predorsal extending about ~~half~~ last $\frac{2}{5}$ ~~way~~ in postocular. Head naked, with 4 rows of fine papillae radiating down on cheek and crossed by median and terminal rows; row along lower face of mandible and lower part of preopercle; row forward from supracapula, two rows on opercle. Breast and caudal base scaly. Scales with 22 basal radiating striae; 3 9 or 4 apical denticles, graduated little shorter to apex of scale; circuli fine.

D. $\underline{\underline{VI}}$ — $\underline{\underline{I}}$, 10, $\underline{\underline{I}}$, third spine $1\frac{1}{6}$ in total head length, soft fin height $1\frac{4}{5}$; A. $\underline{\underline{I}}$, 8, $\underline{\underline{I}}$, fin height $2\frac{1}{8}$, caudal 1, little convex behind; least depth of caudal peduncle $2\frac{1}{4}$; pectoral $1\frac{1}{4}$, rays 16; ventral rays $\underline{\underline{I}}$, 5, front membrane entire, rather broad, fin length $1\frac{2}{5}$. Anal papilla flat, pointed, close before anal fin.

Brown generally, under surfaces scarcely paler. Backs with 5 variable

blackish-brown saddle like blotches variously mottled paler and darker, and alternating with as many dark blotches along lower half of side. Head marbled with dark to blackish brown blotches, arranged as 5 inclined bars along lower side of head. Dorsals grayish, medially with blackish brown, broadly pale marginally. Caudal with 6 or 7 transverse blackish brown transverse bands; in basal half several reticulated to form rather broad band; 2 pale round spots, smaller than eye, at caudal base. Anal gray; each membrane over greater basal portion blackish. Pectoral gray, with 2 blackish blotches basally. Lipper larger and preceded by conspicuous white spot. Ventrals gray blacks, margin of disk whitish. Iris gray.

A.N.S.P. No. 68,252. Bangkok, R. Mr. de Schauensee. Type. Siam. Length 48 mm.

Apparently related to C. longhaongensis (Seale) 1910 in its squamation, though with less extended scaly

predorsal region made up of fine scales. (1257)
The physiognomy is also quite different, the projecting mandible subvertically protruded in front, a ladder of papillae on the cheek, the front dorsal spines extended and the coloration quite different.

1256

~~Acanthogobius~~ Gobius vigansis Steindachner

Gobius vigansis Steindachner, Sitzs. B.d.r. Akad. Wiss. Wien, vol. 102 pt. 1, p. 230, 1893 (type locality, Vigan, Philippines). — Jomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 64, fig. 18, 1936 (Taiwan, Formosa).

Aboma vigansis Herre, Gobies of Philippines, p. 203, 1927 (copied). — Roxas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 234, 1937 (reference).

Depth 4 to 4 1/3; head 3 3/5, width 1 2/3. Snout 3 1/2 in head; eye 4; greater than snout or interorbital; maxillary reaches 3/5 in eye; mouth well inclined, gape 3 in head; broad band of short, tender teeth in each jaw; upper outer teeth little longer and stouter than others, of which anterior central ones little larger than lateral which reach back to middle of gape; lower front teeth in short

spines elongated, thread like, second nearly equals head and last very short; second ray 2 1/2 in head; A. I, 11, eighth ray 1 2/5; caudal rounded, little shorter than head; caudal peduncle depth 2 in head; pectoral 1 2/9; ventral 1 1/3, with broad frenum.

Yellowish brown. Small narrow indigo blue stripe along hind edge of opercle or spread out in spots. Scales on upper posterior half with small brown spots, forming rather regular longitudinal lines. Four large dark brown spots along upper middle of side of posterior half of trunk. Three to 4 sharply defined indigo blue cross lines on lower half of body between pectoral base and anus; posterior line very close before first of 4 large spots on side

row of widely spaced, much larger crooked teeth of which last most strongly developed, points turned backward; dorsal profile of head arched like bow and sides of head plump; interorbital ½ of eye).

Scales 28 or 29 in lateral series; 9 transversely. Sides and top of head completely scaled back to hind end of very narrow interorbital; scales on nape back to first dorsal origin and laterally to upper opercle edge and pectoral base half large as scales on caudal peduncle. Large posterior scales, especially below first dorsal base back length of horizontally laid pectoral with hind edge mostly bluntly angular with sharply distinct angular tip, rest with hind edge weakly arched.

D. VII – I, 9, second to fourth

of trunks. In larger example large deep brown spott with indistinct margin between upper opercle edge and center of nape on one side but lacking on other side while smaller example lacks it on both sides. Ventral violet gray with clear edge.

(Steindachner.

Philippines, Formosa. Tomiyama has reported it from the latter locality, stating the dorsal to have 6 spines, his two specimens 50 and 55 mm. long.

One example. Manila market.
July 11, 1908. Length 50 mm.
Agrees well with Tomiyama's
figure of a Formosan specimen.

1263

Gobius villa (Herre)

Vaimosa villa Herre, Gobies of Philippines, p. 154, pl. 12, fig. 2, 1927 (type locality, Villa, Iloilo Province; Panay; Molo).

Mugilogobius villa Rojas and Martin, Department. Agric. Comm. Manila, Techn. Bull. 6, p. 235, 1937 (reference)

1264

Gobius villadolidi (Herre)

Ctenogobius villadolidi Herre, Philip-
pine Journ. Sci., vol. 59, no. 3, p. 361,
pl. 2, fig. 4, March 1936 (type locality,
Tide pool near Dumaguete, Oriental
Negros, Philippines).
— Rojas and Martin, Departm. Agric.
Comm. Manila, Techn. Bull. 6, p. 227,
1937 (reference).

Caudal barred by several rows of black spots, tip black with white margin. Black bar on upper part of pectoral base, fin clear or specked with back. Ventral black, with broad white margin or may be colorless.

Length 17 to 31 mm. (Herre.)

Oriental Negros, Philippines.

Said to be "close to Ctenogobius muchipunctatus but differs in many respects".

1264a

Gobius villadolidi Herre

Ctenogobius villadolidi Herre, Philippine Journ. Sci., vol. 59, no. 3, p. 364, pl. 2, fig. 4, March 1936 (type locality, Guide pool near Dumaguete, Oriental Negros).

Depth 6 2/5 to 6 7/10; head 3 2/5 to 3 1/2, width 1 3/4 to 1 1/2. Snout 5 to 5 1/2 in head from snout tip; eye 3 9/10 to 4 1/10, longer than snout; maxillary reaches 1/3 in eye, length 3 in head from snout tip; teeth minute, no canines; tongue rounded to truncate; eyes meet at inner angles, enter upper profile of head.

Scales 27 or 28+1 in lateral series; 8 transversely. Head and predorsal naked, also breast. Body scales large, finely ciliated.

D. VI—I, 12, third spine 2 in total head length, first branched ray 2; A. I, 12 or 13, first branched ray 3; caudal 1, rounded-pointed behind; least depth of caudal peduncle 4; pectoral 1 1/4; ventral 1. Anal papilla very small.

Color in alcohol whitish with blackish scale margins on upper half, some on sides enlarged to form row of 5 black spots, last on caudal base. Entire head and body more or less thickly sprinkled with black specks. First dorsal sprinkled with black dots and white on clear spots; in males 1 to 3 large elongated black spots along fourth or third, fourth and fifth spines. Second dorsal densely sprinkled with black dots, often with clear margin. Anal with broad black longitudinal band, tips of rays whitish.

1265

Gobius viridi-punctatus Valenciennes

Gobius viridi-punctatus Valenciennes, ~~Hist.~~ Hist. Nat. Poiss., vol. 12, f. (47) 62, 1837 (type locality, Bombay). — Günther, Cat. Fish. Brit. Mus., vol. 3, f. 24, 1861 (copied). — Day, Fishes of Malabar, f. 110, 1865.

— Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 70, 1936 (Ryukyu).

Rhinogobius viridipunctatus Herre, Gobies of Philippines, p. 179, pl. 30, fig. 1, 1927 (Malabon; Manila; Calapan; Capiz; Molo; Dumangas; Villa; Buena Vista; Navalas; Kamoan).

(Ctenogobius viridipunctatus Luvatti,
Index Fish. Siam, p. 156, 1936
(Laem Ling; Songkhla).

Ctenogobius viridi-punctatus Herre,
Fish. Herre Philippine Exped. 1931, p. 87,
1934 (Cebu). — Royas and Martin,
Departm. Agric. Comm. Manila, Techn.
Bull. 6, p. 227, 1937 (reference).

Ctenogobius viridipunctatus Fowler,
List Fish. Malaya, p. 215, 1938 (reference).

Acentrogobius viridipunctatus Koumans,
Zool. Meded. Rijks Mus. Nat. Hist. Leiden,
p. 134, 1935 (types).

Gobius venenatus Valenciennes, Hist. Nat. Poiss.; vol. 12, p. (64) 85, 1937 (type locality, Pondichery). — Bleeker, Nat. Geneesk. Arch. Ned. Indië, vol. 2, p. 514, 1845 (Batavia); Verh. Batavia. Genoot. (Nat. Bengal. Ind.), vol. 25, p. 50, 1853 (reference). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 38, 1861 (Kurrachee).

Lycodontis marmorea (Valenciennes).

Muraenophis marmoreus Valenciennes, Voy. Venus, Zool., 1855, p. 347, l. 10, fig. 1 (type locality, Galapagos Archipelago).

Gymnothorax marmoreus Jordan and Davis, Rep. U. S. Fish Comm., pt. 6, 1888 (1892), p. 598 (compiled).

Rabula marmorea Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 1, 1896, p. 391 (compiled).--Snodgrass and Heller, Proc. Wash. Acad. Sci., vol. 6, Jan. 31, 1905, p. 347 (compiled).

(Gobius chlorostigma Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, f. 27, 1849 (type locality, Batavia; Surabaya, Kamsidal); (Madura) vol. 22, f. 16, 1849 (Madura); (Midd. Oost-Java) vol. 23, f. 9, 1850; Nat. Tijds. Ned. Indie, vol. 3, f. 53, 1852 (Singapore), f. 275 ~~1855~~ (Moluccas), f. 412 (Borneo); Verh. Batavia. Genoot. (Jaf.) vol. 25, f. 43, 1853 (Japan); Nat. Tijds. Ned. Indie, vol. 18, f. 369, 1859 (Banka); Act. Soc. Sci. Ind. Neerl. (Borneo), vol. 8, f. 16, 1860 (Borneo); (Mert. Celebes) vol. 8, f. 43, 1860 (Celebes); Ned. Tijds. Dierk., vol. 2, f. 292, 1865 (Amboina).

Gobius puntang Bleeker

Gobius puntang Bleeker, Nat. Tijds. Ned. Indië, vol. 2, p. (47½)486, 1851 (type locality, Rio); vol. 3, p. 690, 1852 (Wahai, Ceram); Verslag. Kon. Akad. Wet. Amsterdam, vol. 12, p. 32, 1861 (Singapore); Ned. Tijds. Dierk., vol. 1, p. 264, 1863 (Atapupu, Timor); Verslag. Kon. Akad. Wet. Amsterdam, vol. 2, ser. 2, p. 293, 1868 (Rio, Bintang). — Day, Fishes of India, pt. 2 p. 788, pl. 62, fig. 1, 1876. — Meyer, Anal. Soc. Españ. Hist. Nat. Madrid, vol. 14, p. 29, 1885 (Rubi, New Guinea). — Vaillant, Nouv. Arch. Mus. Hist. Nat., ser. 3, vol. 5, p. 58, 1893 (Palawan). — Beaufort, Bijdr. Dierk. Amsterdam, vol. 19, p. 139, 19 (Majalibit Bay, Waigiu).

Gobius viridipunctatus Jordan, Madras Journ. Lit. Sci., 1851, p. 143. — Day, Fishes of India, p. 2, p. 286, pl. 61, fig. 4, pl. 63, fig. 4 (abnormal), pl. 59, fig. 5 (male); Suppl. p. 793, 1888; Fauna of British India, Fishes, vol. 2, p. 253, 1889.

Bleeker, Nat. Geneesk. Arch. Ned. Indie, vol. 2, p. 514, 1845 (Batavia). — Bleeker, Verh. Batavia. Genoot. (Nat. Bengal. Ind.), vol. 25, p. 150, 1853 (reference).

— Weber, Siboga Exped., vol. 57, Fische, p. 465, 1913 (Makassar).

— Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 70, 1936 (Kyushyu).

ycodontis dovii (Günther).

Muraena dovii Günther, Cat. Fish. Brit. Mus., vol. 8, 1870, p. 103 type locality, Panama).—Jordan and Gilbert, Proc. U. S. Nat. Mus., vol. 5, 882, p. 378 (Espiritu Santo I,, Galapagos).

Gymnothorax dovii Jordan and Davis, Rep. U. S. Fish Comm., pt. 16, 888 (1892), p. 604 (compiled).—Snodgrass and Heller, Proc. Wash. Acad. Sci., ol. 6, Jan. 31, 1905, p. 348 (compiled).

Lycodontis dovii Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, t. 1, 1896, p. 397 (compiled).

India, East Indies, Philippines,
Siam, Riu Kiu, ~~Japan~~ &c
preserved examples the round
dark blotch above the pectoral
origin is usually conspicuous
and contrasted, and slate black
in color. Occasionally it may
be absent, or may have faded
from the materials.

Two examples. Cavite market. June 14, 1908. Length 132 to 135 mm.

One example. Cebu market. August 28, 1909. Length 91 mm.

19379. Iloilo market. March 20, 1908. Length 90 mm.

One example. Manila market. March 12, 1908. Length 120 mm.

6970, 6969 [1521]. Manila market. April 14, 1909. Length 90 to 105 mm.

One example. Manila market. April 21, 1909. Length 59 mm.

11959. Manila market. April 22, 1909. Length 157 mm.

5207. Manila market. June 11, 1908. Length 68 mm.

One example. Manila market. June 13, 1908. Length 108 mm.

10667 to 10669. Manila market. June 17, 1909. Length 136 to 148 mm.

One example. Manila market. December 12 to 18, 1907. Length 80 mm.

1025 (metal). Philippines. Length 109 mm.

4540. Manila market. December 18, 1907. Length 103 mm.

[655] Shore above Iloilo, Panay.
646, June 2, 1908. Length 71 to 103 mm.
Eight examples.

17557. Dorsogon market. March 12, 1909. Length 87 to 100 mm.
Eight examples.

5-271, Sandakan Bay, Borneo. March 21, 1908. Length 105 mm. Third dorsal spine filamentous, 2 3/4 in fish without caudal.

20225, 20226, 20374. Sandakan market, Borneo. March 2, 1908. Length 95 to 118 mm.
One example. Sandakan Bay, Borneo. March 24, 1908. Length 100 mm.
Eight examples. Macassar, Celebes. December 26, 1909. Length 57 to 93 mm.

1274

U. S. N. M., no. 103360. Chantabun Estuary, South east Siam. June 11, 1926. Dr. H. M. Smith. Length 152 mm.

1275

Gobius volcanus (Herre)

Gnatholepis volcanus Herre, Gobies of Philippines, p. 131, 1927 (type locality, Lake Taal, Batangas Province, Luzon); Philippine Journ. Sci., vol. 34, p. 297, 1927. (L. Taal). — Royas and Marton, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 232, 1937 (reference).

Depth 6; head 3 4/7. Snout 3 7/10 in head; eye 3 7/10, equal snout, contiguous; maxillary reaches below front eye edge; mouth cleft oblique, with projecting chin; upper teeth in 4 rows, outer row with 2 or 3 pairs of stout, downward pointed, somewhat curved canines anteriorly, remaining teeth of outer row of

moderate size, widely spaced; next 2 rows of upper teeth minute, fourth row with anterior teeth much longer, slender, pointed, inclined backward, depressible, remaining teeth very small; lower jaw with short outer row of moderate teeth, ending on each side in stout curved canine, posteriorly 2 rows of small, slender, pointed teeth extending far back; tongue slightly crenate emarginate.

Scales 30 in lateral series; 9 transversely; 12 predorsal. Cheeks with 4 rows of large scales, and fifth row of small scales between second and third rows. Opercles scaled on upper half. Body covered with large, finely ctenoid scales, predorsal smaller and extend forward to eyes.

D. (spines not given though description mentions 4) — I, 10, tips

of second to fourth spines elongated, thread like, second trifle largest or 1 1/5 in head, when depressed reaching base of third dorsal ray; second dorsal slightly lower than body depth, hind ray not reaching caudal when depressed; D. I, 11, highest posteriorly, last ray not quite reaching caudal base; least depth of caudal peduncle 2 1/3 in head; caudal shorter than head; pectoral almost long as head; ventrals broad, rounded tipped, with wide, deep, thin frenum, length 1 2/5 in head, not nearly reaching very short, blunt, cylindrical anal papilla.

(Weber.)

Length 100 mm.

Philippines, in Luzon. The coloration of this species has not been given.

Gobius watkinsoni de Vis

Gobius watkinsoni de Vis, Proc. Linn. Soc. New South Wales, vol. 9, pt. 3, p. 685, Nov. 29, 1884 (type locality, Moreton Bay, Queensland). —

— Mc Culloch, Austral. Mus. Mem., no. 5, pt. 3, p. 370, Nov. 28, 1929 (reference)

— Mc Culloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference).

stigmasemion

~~Globus distigmaturus~~ new species

det. Peters

Genus Stenogobius Bleeker

Stenogobius Bleeker, Arch. Néerl. Sci. Nat. Harlem, vol. 9, p. 317, 1874. (Type Gobius gymnopomus Bleeker, orthotypic.)

Oligolepis Bleeker, op. cit., p. 318, 1874. (Type Gobius melanostigma Bleeker, orthotypic.)

Aparrius Jordan and Richardson, Bull. Bur. Fisher., vol. 26, p. 278, 1908. (Type Gobius acutipinnis Valenciennes, monotypic.)

Body elongate, compressed. Head compressed, obtuse. Snout subequal with eye, blunt. Eye advanced or in front half of head. Mouth oblique, jaws subequal, or lower jaw little prominent. Teeth in both jaws in several rows, outer enlarged, or upper outer and inner lower series enlarged; no canines, outer mandibular row only to half of jaw; sometimes teeth behind symphysis and last teeth of outer row of mandible little stronger and caniniform. Tongue truncate, not emarginate. Gill-openings not very wide. Isthmus broad. Branchiostegals 5. Inner edge of shoulder girdle with several fleshy flaps, sometimes scarcely visible or distinct. Several transverse and longitudinal mucous canals on preopercle and opercle, 1 along lower jaw to hind edge of preopercle. Some open pores on head near eye and on hind edge of preopercle.

Scales 25 to 45 in lateral series, mostly ctenoid on body, becoming cycloid on neck and belly. Head naked, - or scaled above behind eyes. Sometimes patch of scales above on preopercle and opercle. Dorsal fins separated. First dorsal with 6 flexible spines, second dorsal with 11 to 13 rays. Anal with 11 to 13 rays. ~~Pectoral~~ Caudal obtuse to lanceolate, longer than head. Pectoral without detached or silk like rays. Ventrals united, oblong, situated under pectoral.

Analysis of species

a.[1] Scales 50 to 55; body with 12 dark cross bands. geniwittatus

a.[2] Scales 46 to 50; 3 brown angular cross bands between second dorsal and anal bent back; brown cross bar below eye. gymnopomus

a.[3] Scales 38 to 42; 2 black longitudinal bands on side. moloanus

a.[4] Scales 26 to 29; no black lateral bands. acutipennis

Stenogobius genivittatus (Valenciennes)

Gobius genivittatus Valenciennes, Hist. Nat. Poiss., vol. 12, p. 148 (64, 1837 (references)). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 13, 1861 (type locality, Tahiti). — Schmeltz, Cat. Mus. Godeffroy, no. 2, p. 8, 1868 (Ceva R., Viti Levu); no. 3, p. 9, 1866 (Viti Levu). — Günther, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 170, pl. 110, fig. C, 1877 (Tahiti; Fiji; Samoa; Hawaii). — Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 46, 1879 (Viti Levu). — Günther, Rep. Voy. Challenger, vol. 1, pt. 6, p. 44, 1880 (Fresh waters New Hebrides). — Pöhl, Cat. Mus. Godeffroy, no. 10, p. 32, 1884 (South Seas). — Keale, Occas. Pap. Bishop Mus., vol. 1, no. 5, p. 17, 1902 (Honolulu). — Weber and Beaufort, Fauna Caledonia, Parasin and Roux, Zool. ser. 2, vol. 1, p. 37, 1915 (Tchalabel, Dubatche).

Gobius (Stenogobius) genivittatus Koumans, Zool. Med. Leiden, p. 3, 1930.

1864

Kurtus genivittatus Schmeltz, Cat. Mus. Godeffroy, No. 4, p. 18, 1869 (Pelew Islands); Viti Levu).

Awaous genivittatus Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 517, 1900 (Hawaii). — Jenkins, Bull. U. S. Fish Comm., vol. 22, p. 502, 1902 (1903) (fresh water Honolulu). — Snyder, Bull. U. S. Fish Comm., vol. 22, p. 536, 1902 (1904) (Honolulu, Waiamea River, Hanapepe River, Hanalei River, Huleia River, Anahulu River). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, p. 492, fig. 218, 1903 (1905) (Honolulu, Moanalua, Kaneohe Creeks, Hilo). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 405, 1905 (1906) (Vaisigano River, Samoa). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, p. 320, 1911 (Kusaie). — Snyder, Proc. U. S. Nat. Mus., vol. 42, p. 442, 1912 (Yanegasima). — Roxas and Martin, departm. Agric. Comm. Manila, Tech. Bull. 6, p. 224, 1937 (reference).

Awaous vittatus Fowler, Copeia, No. 112, p. 84, Nov. 20, 1922 (Hawaii) (lapsus for genivittatus).

Chonophorus genivittatus (Jordan and Jordan), Mem. Carnegie Mus., vol. 10, No. 1, p. 78, Dec. 1922 (Hawaii). — Fowler, Bull. Bishop Mus., No. 22, p. 30, 1925 (Honolulu). — Herre, Gobies of Philippines, p. 211, pl. 16, fig. 4, 1927 (Limbones Cove, Bigao and Trimbay Rivers, Libuyan Island; San Jose, Dumarao; Lasay; Cagayan; Balabac), — Fowler, Mem. Bishop Mus., vol. 10, p. 409, pl. 42 C, 1928 (Hawaiian Islands; Honolulu; Lake Stream; Waialua Stream, Molokai; Society Is.; Kusaie; Maui; Hanapepe R.; Apia); vol. 11, No. 5, p. 362, 1931 (Honolulu). — Herre, Journ. Pan-Pac. Res. Inst., vol. 6, No. 4, p. 10, Oct.-Dec. 1931 (fresh water Moorea); vol. 7, No. 1, p. 5, Jan.-March 1932 (Tahiti). — Fowler, Mem. Bishop Mus., vol. 11, No. 6, p. 443, 1934 (Hawaii).

1206

Stenogobius genivittatus Tomiyama, Jap. Journ. Zool., vol. 7, No. 1, p. 76 1936 (Basilan, Philippines).

Koumans, Zool. Mededel., 1935 (types of Gobius genivittatus, G. ophthalmoporus, Gobius polyzona Bleeker, G. blozeyi, G. polyzona, G. beauforti; Luzon; Haroekoe; Ceram; Sandwich Is.). p. 124

~~Stenogobius ophthalmoporus (Bleeker)~~

Gobius ophthalmoporus Bleeker, Nat. Tijds. Ned. Indie, vol. 5, p. 340, 1853 (type locality, Amboina). — Weber, Nova Guinea, vol. 9, pt. 4, p. 599, 1913 (Lorentz River and Biwak Island). — Fowler, Mem. Bishop Mus., vol. 10, p. 405, 1928 (copied). — Koumans, Prelim. Rev. Gobioid Fishes, p. 74, 1931 (reference).

Stenogobius blokzeyli (Bleeker)

Gobius blokzeyli Bleeker, Nat. Tijds. Ned. Indie, Dol. 22, p. (238) 240, 1860 (type locality, Bali). — Koumans, Prelim. Rev. Gobioid Fishes, p. 74, 1931 (reference).

Gobius (Gwaous) littoratus (Steindachner, Sitz. Ber. Akad. Wiss. Wien, Math.-naturw. Klasse, vol. 42, p. 289, pl. 1, figs. 4-5, 1860 (type locality, Philippines).

Gobius polyzona Bleeker, Arch. Sci. Nat. Harlem, vol. 2, p. 413, 1867 (type locality, Madagascar in flumine Tamberano); Reis. Faune Madagascar, Pollen et Van Dam, pt. 4, p. 565, pl. 17, fig. 1, 1874 (types), p. 77 (reference). — Pellegrin, Mem. Acad. Malgache, vol. 14, p. 148, fig. 86, 1933.

1269

Awaous lachrymosus (Peters)

Gobius lachrymosus Peters, Monatsb. Akad. Wiss. Berlin, p. 265, 1868 (type locality, Quingoa River, Luzon). — Meyer, An. Soc. Espan. Hist. Nat. Madrid, vol. 14, p. 29, 1885 (Manila Bay).

Awaous lachrymosus Jordan and Richardson, Philippine Journ. Sci., p. 49, 1910 (reference). — Rojas and Marton, Depart. Agric. Comm. Manil, Tech. Bull. 6, p. 225, 1937 (reference).

Chonophorus lachrymosus Herre, Gobies of Philippines, p. 212, colored frontispiece, 1927 (Quingoa River, Balacogon).

1290

Awaous beauforti (Weber)

Gobius beauforti Weber, Nova Guinea, vol. 5, pt. 2, p. 261, 1908 (type locality, Namapini and Klipang River, north New Guinea).

Chonophorus beauforti Fowler, Mem. Bishop Mus., vol. 10, p. 410, 1928 (copied).

Depth 6; head 4 1/2. Eye 3 2/3 in head, little longer than snout, which rounded; mouth cleft short, not quite reaching eye teeth fine, close set, without canines; eyes close together.

Scales 48 to 50 in lateral series; 10 or 11 transversely; 16

Gobius (Awaous) litturatus (Hechel) Steindachner, Sitzs. Ber. Akad. Wiss. Wien, vol. 42, p. 289, pl. 1, figs. 4–5, 1860 (type locality, Philippines).

Awaous ~~Gobius~~ macropterus Duncker, Mitt. Nat. Mus. Hamburg, vol. 27, p. 252, pl., fig. 1, 1911 (type locality, Valsvella, Ceylon).

Depth 4 1/8 to 5; head 3 1/4 to 3 2/3, width 1 2/3 to 2. Snout 2 7/8 to 3 1/8 in head from snout tip; eye 5 to 6 3/4; maxillary reaches opposite hind eye edge, .4/5 in eye in young, expansion 1 1/6 to 1 1/4 in eye, length 1 4/5 to 3 in head from snout tip; teeth conic, moderate, in bands in jaws; tongue obtuse or truncate in front; interorbital 5 3/5 to 7, slightly convex. Gill rakers 2+4, very short rudimentary tubercles; gill filaments 1 1/5 in eye.

Scales 48 to 50 + 3 to 5 in axial lateral series; 12 or 13 transversely at second dorsal origin; 15 to 20 predorsal. Cheek with 4 rows of pores below eye, front one forking below. Bar of pores close bellow nostrils, another vertically before front nostril. Line of pores close behind eye

above, when midway in eye-diameter extended horizontally backward. Another line each side of mandible and along lower preopercle edge, continued up closely parallel with and along preopercle flange. Vertical line of pores on opercle extends down and forward to preopercle. Scales with 14 to 30 marginal parallel basal striae; 3 auxillaries; 39 to 41 + 43 to 78 apical denticles; circuli fine basally, coarser apically.

D. VI — I, 11, I, A. I, 10, I to I, 12, I, fourth spine 1 1/3 to 2 in head, fifth ray 1 1/2 to 1 3/5, last ray 1 to 1 1/2; A. fifth ray 1 1/4 to 1 4/5, last ray 1 1/8 to 1 3/4; caudal 2 7/8 to 3 1/3 in rest of fish, lanceolate; least depth of caudal peduncle 2 1/4 to 3 in head; pectoral 1 1/5 to 1 1/5 in head, rays 14; ventral rays I, 5, fin 1 to 1 1/5 in head.

dull brown, each scale with narrow deep brown streak basally; side with traces of about a dozen dusky vertical streaks or narrow bars. dusky band from lower eye edge down across cheek behind maxillary where expanding, to lower portion of preopercle. Spinous dorsal pale brown with narrow waved brown lines submarginally on membranes. Soft dorsal pale, with deep brown irregular waved though mostly vertical, lines on membrands between and parallel with rays. Anal similar, only dark vertical streaks on membranes broader and more regular. Caudal pale brown, faintly and finely cross barred. Other fins all pale brown.

Two examples. Baganga River, Mindanao. May 13, 1908. Length 21 to 59 mm.

One example. Cabugao River, Catanduanes Islands. June 9, 1909. Length 70 mm.

Eleven examples. Mahinog River, Camiguin Island. August 3, 1909. Length 71 to 131 mm.

One example. Malaga River, Leyte. July 30, 1909. Length 70 mm.

One example. Iponican River, Camp Overton, Mindanao. August 6, 1909. Length 68 mm.

5855, 5857. San Roque, small stream, Leyte. July 29, 1909. Length 60 to 77 mm.

One example. Santiago River, Pagapas Bay, Luzon. February 20, 1909. Length 65 mm.

Two examples. Gava River, Legaspi. June 7, 1909. Length 26 to 34 mm.

One example. Amilao River, Pasi, Iloilo Province. January 13, 1909. Length 90 mm.

One example. Cabugao River, Catanduanes Island. June 9, 1909. Length 72 mm.

6735: Pasi, Iloilo. January 14, 1909. Length 132 mm.

Two examples. Batangas, Batangas River, Luzon. June 7, 1908. Length 49 to 51 mm.

Two examples. Port Calton, Pangauron River, Busuanga Island. December 16, 1908. Length 22 to 25 mm.

U. S. N. M., No. 82839. Oahu, Hawaiian Islands. Wilkes Exploring Expedition. Length 105 mm.

U. S. N. M., No. 82852. Oahu. Wilkes Exploring Expedition.

U. S. N. M., No. 82868. Oahu. Wilkes Exploring Expedition. Length 138 mm. Two examples.

U. S. N. M., No. 82840. Maui, Hawaiian Islands. Wilkes Exploring Expedition.

U. S. N. M., No. 51164. Hawaii. Bureau of Fisheries.

U. S. N. M., No. 52231. Apia, Samoa. Bureau of Fisheries. Two examples.

U. S. N. M., No. 55120. Hawaii. Bureau of Fisheries. 38 examples.

U. S. N. M., No. 55151. Hanapepe River, Hawaii. Albatross Collection. Two examples.

U. S. N. M., No. 55166. Honolulu, Hawaiian Islands. Albatross Collection. Two examples.

U. S. N. M., No. 55392. Hawaii. Bureau of Fisheries. 63 examples.

U. S. N. M., No. 55394. Hawaii. Bureau of Fisheries. 31 examples.

U. S. N. M., No. 65755. Kusaii. Albatross Collection.

U. S. N. M., Nos. 10746 and 10751. Hawaiian Islands. Dr. J. K. Townsend. Length 180 mm.

U. S. N. M., Nos. 28016 to 28019. Hawaiian Islands. Bureau of Fisheries. Length 73 mm.

U. S. N. M., no. 52231. Apia, Samoa. Bureau of Fisheries (06511). Length 58 to 89 mm. Three examples.

U. S. N. M., no. 55120. Anahulu River, near Waialua Bay, Oahu, Hawaiian Islands. U. S. Fish Comm. Albatross Explorations 1902. Length 42 to 98 mm. Thirty-eight examples.

U. S. N. M., no. 51164. Waikiki Beach, Oahu, Hawaiian Islands. U. S. Fish Comm. Albatross Explorations 1901. Length 21 to 44 mm. Four examples.

U. S. N. M., no. 55146. Waimea River, Kauai. U. S. Fish Comm. Albatross [redacted] Exploration 1902. Length 61 to 96 mm. Eleven examples.

U. S. N. M., no. 55151. Hanapepe River, Hawaii. U. S. Fish Comm. Albatross Explorations. Length 27 to 47 mm. Two examples.

U. S. N. M., no. 55166. Honolulu, Oahu. "Said to be from fresh water." U. S. Fish Comm. Albatross ~~Collection~~ Explorations 1902. Length 132 to 140 mm. Two examples.

U. S. N. M., no. 55392. Hawaii. D. S. Jordan and B. W. Evermann. Length 28 to 120 mm. 149 examples.

U. S. N. M., no. 55393. Hanapepe River, Kauai. U. S. Fish Comm. Albatross ~~Collection~~ Explorations 1902. Length 25 to 82 mm. Seventeen examples.

U. S. N. M., no. 55394. Hanalei River, Hawaii. U. S. Fish Comm. June 22, 1902. Albatross Explorations. Length 97 to 110 mm. Thirty-one examples.

U. S. N. M., no. 65755. Kusaie, Caroline Islands. Albatross Explorations 1895-1900. Length 88 mm.

U. S. N. M., no. 82839. Oahu. Wilkes Exploring Expedition. Length 104 mm.

U. S. N. M., no. 82840. Hawaii. Wilkes Exploring Expedition. Length 135? mm.

U. S. N. M., no. 82852. Hawaii. Wilkes Exploring Expedition. Length 124 mm.

U. S. N. M., no. 82868. Hawaii. Wilkes Exploring Expedition. Length 136 to 138 mm? Two examples.

U. S. N. M., no. 71433. Tanegashima, Japan. Bureau of Fisheries. Albatross Expedition 1906. Length 71 mm.

1304

Stenogobius gymnopomus Bleeker

(Gobius gymnopomus Bleeker, Nat. Tijdsk. Ned. Indie, vol. 4, p. 270, 1853 (type locality, Priaman, Sumatra); vol. 7, p. 313, 1854 (Tjiringin); Acht. Soc. Sci. Ind. Neerl. (Acht. Sumatra), vol. 8, p. 41, Feb.-Aug. 1859 (Padang; Priaman). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 65, 1861 (copied).

Depth 6 3/4 in total; head 5 1/3, width 2. Snout obtuse convex, not or somewhat less than eye; eye 3 2/3 in head, greater than interorbital; mouth cleft reaches 1/2 in eye, oblique; teeth in jaws pluriserial, subequal, small, outer series enlarged, none canines; interorbital 1/2 of eye.

Scales 46 in lateral series. Postocular groove distinct.

D. VI – I, 10, first close set, first dorsal rounded with second and third flexible and largest, lower than body depth; A. I, 10, like second dorsal higher posteriorly; caudal broad, obtuse, rounded; 3 2/3 in body; pectoral rays 16; ventral rays I, 5; paired fins equal, 5 3/4 in body. Anal papilla elongate, conic.

Body green above, yellow below. Back and sides with scattered brown spots. Three curved bands from dorsal to anal, bent back. Broad brown transverse band below eye. Muzzle and cheeks with irregular ~~bands~~ brown lines. First dorsal base violaceous, with median yellow longitudinal band, above violet red spotted with yellow. Dorsal rays violet green, spotted with yellow, margin doubly yellow and violet-red.

Caudal violaceous, above spotted with green and margin doubly yellow and violet-red. Anal, reddish violet with double margin violet and golden. Pectoral base yellow, above black spot. Ventral violaceous.

Length 8 9 mm. (Bleeker.)

East Indies.

Globiis moloanus Herre

Gobiosoma moloanus Herre, Gobies of Philippines, p. 207, pl. 16, fig. 3, 1927 (type locality, Iloilo

— Suvatti, Index Fish. Siam, p. 159, 1936 (Canthaburi Estuary). — Royas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 232, 1936 (reference).

Oligoleps moloanus

1307

Stenogobius moloanus (Herre)

Aparrius moloanus Herre, Gobies of Philippines, p. 207, pl. 16, fig. 3, 1927 (= type locality, Molo, Iloilo Province, Panay, Capiz, San Jose). — Suvatti, Index Fish. Siam, p. 159, 1936 (Canthaburi Estuary).

Oligolepis moloanus Royas and Martin, Departm. Agric. Comm. Manila, Techn. Bull. 6, p. 232, 1937 (reference).

Depth 4 1/3 to 5; head 4 to 4 1/3. Snout 3 2/3 to 4 in head; eye 3 1/3 to 4, subequal with snout, greatly exceeds interorbital; maxillary reaches below 1/3 of eye, length 2 2/5 in head; mouth cleft oblique, begins in front, below level of lower eye edge; teeth in jaws minute, biserial above, in 2 or 3 rows below, and latter with pair of small outward-curving posterior canines in outer row; tongue slightly notched; interorbital very narrow, 3 to 6 in eye.

Scales 38 to 42 in lateral series; 13 or 14 transverse; 15 or 16 predorsal. Scales on predorsal not forward beyond opercle, head otherwise naked. Scales on trunk ctenoid, largest posteriorly except on breast, pectoral bases and nape, where very small and cycloid.

D. VI — I, 10 or 11, well separated,

height little more 2/3 of body depth, second spine prolonged in filament in males, longer than head or may reach third dorsal ray when depressed; posterior ray of second dorsal longest, reaching caudal base when depressed; D. I, 9 or 10, like second dorsal, hind rays not reaching caudal when depressed; caudal pointed, in males 2 2/3 to 2 4/5 in length, in females long or shorter to 3 1/3 in length; pectoral first pointed, subequal or ventrals little shorter, equal to or little shorter than head. Anal papilla small, slender, pointed in males, in females short, rounded and short. Color in alcohol pale whitish, with 2 black longitudinal bands on sides; first begins under eye and extends back to upper base of caudal; other and wider band begins in pectoral axil and ends at middle of caudal base; on it 6 black spots, last 2 very close together. From eye black

predorsal. Scales cycloid. Head naked.

D. VI I, 11; A. I, 11; dorsal and anal lower than body depth.

Yellowish in alcohol, with 7 or 8 short, vertical crossbands on side of trunk and tail. Black band through eye, somewhat wider than pupil, slanting downward. First dorsal with single and second dorsal with double row of dark spots. Caudal hyaline, shorter than head. Anal like caudal, with submarginal violet longitudinal band. Length 29 to 48 mm. (Weber. Near Guinea. Said to be near Awaous genivittatus (Valenciennes), differing in a more slender body, lower dorsal fins, different coloration, and fewer scales transversely.

spot on opercle and small one on upper margin of eye, usually back of center. Pupil white. First dorsal with dark band along base, and first spine or all spines alternately black and light spotted. Basal row of dark spots on membranes of second dorsal - or 3 such rows present. Outer half of anal blackish. Caudal basally black spotted, tip black. Pectoral with 2 black spots on base, or longitudinal bar above and spot below. Ventral dusky, margin whitish.

Length 32 to 48 mm. (Herre.)

Philippines.

Stenogobius acutipennis (Valenciennes)

Gobius acutipennis Valenciennes, Hist. Nat. Poiss., vol. 12, p. (60) 80, 1837 (type locality, Malabar). — Bleeker, Verh. Batavia, Genoot. (Nat. Schth. Bengal), vol. 25, p. 50, 1853 (reference). — Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 823, Oct. 1927 (Natal).

Gobius acutipinnis Günther, Cat. Fish. Brit. Mus., vol. 3, p. 44, 1861 (copied). — Day, Fishes of India, pt. 2, p. 291, pl. 64, fig. 2, 1876 (Madras); Fauna British India, Fishes, vol. 2, p. 261, 1889.

Acentrogobius acutipinnis Smith and Pope, Proc. Biol. Soc. Washington, vol. 19, p. 81, 1906 (Aparri).

Aparrius acutipinnis Jordan and Richardson, Bull. Bur. Fisher., vol. 27, p. 278, 1908 (Aparri); Philippine Journ. Sci., p. 50, 1910 (reference). — Herre, Gobies of Philippines, p. 204, pl. 16, fig. 2, 1927 (Cagayan; Agno R.; Baliuag; Subic; Lake Naal; Pansipit R.; Bigaa and Arimbay Rivers; Libog R.; Puerto Galera; San Jose; Capiz; Iloilo; Villa). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 79, p. 291, 1927 (Santa Maria; San Fernando). — Herre, Fishes Herre 1931 Philippine Exped., p. 87, 1934 (Lake Bombon). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 81, 1934 (10 miles north of Padang Baai, Bali), p. 498 (Natal).

Oligolepis acutipinnis Royas and Martin, Department. Agric. Comm. Manila, Techn. Bull. 6, p. 231, 1937 (reference); Koumans, Zool. Meded. Rijks Mus. Nat. Hist. Leiden, p. 141, 1935 (discussion). —

Stenogobius acutipinnis Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 76, 1936 (Miyako-zima, Ryukyu; Philippines).

Gobius setosus Valenciennes, Hist. Nat. Poiss., vol. 12, p. ( ) 81, 1937 (type locality, Pondicherry). — Bleeker, Verh. Batavia. Genoot. (Nat.) chth. Bengal), vol. 25, p. 50, 1853 (reference).

Gobius melanostigma Bleeker, Verh. Batavia. Genoott. (Bleenn. Gob.), vol. 22, p. 32, 1849 (type locality, Batavia, in sea); Nat. Tijds. Ned. Indie, vol. 20, pp. 238, 450, 1859-60 (Singapore). — Fowler, ~~Cat~~ List. (Malaya Fish.), p. 218, 1937 (reference).

Rhinogobius ocyurus Jordan and Snyder, Bull. Bur. Fisher., vol. 27, p. 42, fig. 14, 1908 (type locality, Cavite).

1314

Gobius spilurus Bleeker

Gobius spilurus Bleeker, Verhand. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 32, 1849 (type locality, Madura Straits near Surabaya and Kammal); (Madura) vol. 22, p. 16, 1849 (Madura); (Midd. Oost-Java) vol. 23, p. 10, 1850.

1315

Gobius temminckii Bleeker

Gobius temminckii Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 33, 1849 (type locality, Surabaya, in tidal); Kárbli, Termesz. Füzetek, Budapest, vol. 5, p. 105, 1881 (1882) (Singapore). — Fowler, Cat. Malaya Fish., p. 218, 1937 (reference).

(Madura) vol. 22, p. 5, 1849 (Madura); (Midd. Oost-Java) vol. 23, p. 10, 1850. — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 47, 1861 (copied).

Gobius temminckii <

Gobius oligolepis Bleeker

Gobius oligolepis Bleeker, hat. Tijds. Ned. Indië, vol. 5, p. 508, 1853 (type locality, Priaman, Sumatra); vol. 9, p. 392, 1855 (Gambong River, Pasuruan, Java); Arch. Néerl. (Arch. Sumatra), vol. 8, p. 427, 1859 (reference). — Peters, Monatsb. Akad. Wiss. Berlin, p. 263, 1868 (Tibi, Luzon). — Herre, Gobies of Philippines, p. 110, 1927 (copied). — Roxas and Martin, Departm. Agric. Comm. Manila, Tech. Bull. 6, p. 223, 1937 (reference). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 14, 1861 (copied).

Depth 5 2/3; head 3 1/4, width 2.
Snout 4 1/2 in head; eye 4 1/4,
1 1/8 in snout; greatly exceeds
interorbital; maxillary reaches
2/3 in eye, length 2 1/10 in head;
teeth fine, slender, simple,
conic, in 2 or 3 close-set
irregular series in jaws, pair
of upper front small canines,
and 2 well-spaced larger
recurved canines at each
side in front below; interorbital
very narrow frenum above
which eye impinges. Gill rakers
3 + 12, lanceolate, 1/2 in gill
filaments, which 2 1/2 in eye;
Scales 48+? (pockets) in
axial lateral series, 13 trans-
versely from second dorsal origin.
Caudal base scaly. Scales with
14 to 20 basal radiating striae;

22 to 32 apical denticles; circuli fine.

D. VI — I, 13, I, third spine long as head, first ray 2 in head, eleventh ray 1 1/4; A. I, 11, tenth ray 1 1/3; caudal 2 1/2 in rest of fish, ends in long, slender point behind; least depth of caudal peduncle 3 1/5; pectoral 1 1/10; ventral 1 1/4.

Back pale olive, under surfaces still paler, grayish on surface of head. Iris dark neutral slate. Fins light olivaceous.

Natal, India, Malaya, East Indies, Philippines, Riu Kiu.

A.N.S.P., one example. Natal. H. W. Bell Marley. Length 103 mm.

Twenty-eight examples. Manila market. July 11, 1908. Length 36 to 53 mm.

Three examples. Manila market. July 11, 1908. Length 37 to 41 mm. In poor preservation.

One example. D. 5347. Cliff Island S. 26° E., 4.5 miles (lat. 10° 50' 44" N., long. 119° 23' 09" E.), Malampaya Sound, Palawan Island. In 5 fathoms. December 26, 1908. Length 40 mm.

1320

U. S. N. M., no. 56235. Rio (Grande), Mindanao. Bureau of Fisheries (4263). Length 50 mm. As Acentrogobius acutipinnis.

Genus Stigmatogobius Bleeker

Stigmatogobius Bleeker, Arch. Néerl. Sci. Nat. Harlem, vol. 9, p. 373, 1874. (Type Gobius pleurostigma Bleeker, orthotypic.)

Pseudogobius (Bleeker) Popta, Zool. Mededeel. Rijks Mus. Nat. Hist. Leiden, vol. 7, p. 36, 1922. (Type Gobius javanicus Bleeker.) (Museum name.)

Microgobius ~~Bleeker~~ (not Poey 1875) (Bleeker) Koumans, Prelim. Rev. General Gobioid Fish., p. 102, 1931. (Type Gobius koreni Bleeker. (Museum name.)

Body elongate, little compressed. Head little compressed to depressed. Snout short, blunt, shorter than eye. Eyes well developed, in front half of head. Mouth oblique, lower jaw or upper jaw prominent. Teeth in both jaws in several rows, outer of which enlarged. Outer lower row extends only to half of jaw, last tooth not more strongly developed. Sometimes lower canine each side of symphysis in inner row, laterally sometimes some larger teeth in inner row. Tongue rounded. Front nostril in short tube. ~~Gill open~~ Bony interorbital 1/3 to 1/2 of eye. Gill openings not wide, along as width of pectoral base. Isthmus broad. Inner edge of shoulder girdle without fleshy flaps. Scales large, 25 to 30 in lateral series, cycloid anteriorly on body, ctenoid posteriorly. Breast and belly

13.23

scaled. Head scaled above behind eyes, where foremost scale large unpaired and in median line. Preopercle and opercle, or only latter mostly scaly. First dorsal with 6 spines. Second dorsal with 7 to 9 rays, separated from first. Anal with 6 to 9 rays. Caudal obtuse. Pectoral without free detached rays, base scaly. Ventrals united under pectorals.

Analysis of species

a.' Predorsal scales 11 to 13; interorbital more than 1/2 of eye.
b.' Head depressed. hoevenii
b.2 Head compressed. borneensis
a.2 Predorsal scales 10 or 11; jaws subequal; interorbital less than 1/2 of eye. penango
a.3 Predorsal scales 6 to 9.
c.' Inner lower lateral series of teeth enlarged.
d.' Interorbital broader than eye. sadanundio
d.2 Interorbital equals or less than 1/2 of eye.
e.' Jaws equal.
f.' Interorbital 1/2 of eye. isognathus
f.2 Interorbital less than 1/2 of eye. tambujon
e.2 Upper jaw prominent.
g.' Preopercle and opercle scaled. gastrospilos

g.² Preopercle naked, opercle scaled.

h.¹ Inner row of lower teeth laterally enlarged. *fecilosoma*

h.² Inner row of lower teeth not laterally enlarged.

i.¹ Maxillary reaches opposite hind edge of pupil. *amblyrhynchus*

i.² Maxillary reaches front edge of pupil. *javanicus*

c.² Inner lower lateral series of teeth not enlarged. *neglectus*

Stigmatogobius hoevenii (Bleeker)

Gobius hoevenii Bleeker, Nat. Tijds. Ned. Indie, vol. 2, p. (416) 426, 1851 (type locality, Sambas, Borneo); — Weber, Nova Guinea, vol. 5, pt. 2, p. 260, 1908 (Trambuai Lake, north New Guinea). — Weber and Beaufort, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 38, 1915 (Dubatche). — Fowler, Mem. Bishop Mus., vol. 10, p. 404, 1928 (copied).

(vol. 3, p. 412, 1852 (Borneo); Act. Soc. Sci. Ind. Neerl. (Nat. Borneo), vol. 8, p. 16, 1860 (Borneo). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 32, 1861 (copied).

Stigmatogobius hoeveni Koumans, Zool. Med. Rijks. Mus. Nat. Hist. Leiden, vol. 15, pt. 1–2, p. 141, 1932 (Bleeker's specimen).

Depth 5 in total; head 4 1/2, width 1 1/4. Snout obtuse convex, not longer than eye; eye 3 1/2 in head, subequal with interorbital; mouth cleft extends below eye, oblique; teeth in jaws uniform, pluriserial, small, none canines.

Scales 30 in lateral series; D. VI — I, 7 or 8, lower than body, first dorsal rounded, second dorsal higher than first and angulate; A. I, 7 or 8, lower than second dorsal, angulate; caudal rounded, obtuse, 4 in body; pectoral rays 16; ventral I, 5. Anal papilla conic, pointed.

Body blackish, variegated with dark green. First dorsal with black base, with median longitudinal pearly band, terminally fin green. Second dorsal green, membrane between rays basally with brown blotch. Other fins deep green.

(Bleeker.)

Length 46 mm.

East Indies.

Stigmatogobius borneensis (Bleeker)

Gobius borneensis Bleeker, Nat. Tijds. Ned. Indie, vol. 1, p. (3) 10, 1850 (type locality, Bandjermassing, Borneo); vol. 3, p. 409, 1852 (Bandjermassing); vol. 9, p. 418, 1855 (reference); Act. Soc. Sci. Ind. Neerl. (Lecht. Sumatra), vol. 8, p. 41, Feb.-Aug. 1859 (Palembang). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 33, 1861 (copied).

Stigmatogobius borneensis Koumans, Zool. Med. Rijks. Mus. Nat. Hist. Leiden, vol. 15, pt. 1 & 2, p. 7, 1932.

Stigmatogobius singaporensis Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 204, 1878 (type locality, Singapore). — Fowler, List. Fish. Malaya, p. 221, 1938 (reference).

Depth 4; head 3 3/5, width 1 4/5. Snout convex, much shorter than eye; eye 3 1/2 in head, 1 in interorbital; maxillary reaches nearly 1/2 in eye; mouth cleft oblique; lips moderate; outer upper teeth conic, curved, spaced, moderately enlarged, below 2 or 3 inner teeth little enlarged.

Scales 30 in lateral series; 8 or 9 transversely between second dorsal and anal; 13 predorsal forward to snout. Scales on head above, opercle, thorax and belly cycloid, on sides an tail ctenoid. Cheeks with conspicuous longitudinal rugae.

D. VI — I, 7, (not contiguous), lower than body, second and third spines longest, second far higher than first; A. I, 7, like second dorsal; caudal obtuse, convex, not longer than head; pectoral rays 17, obtuse, rounded, rays not free, little shorter

than head; ventral rays I, 5, obtuse, little or not shorter than pectoral. Anal papilla short, conic.

Color of body above olivaceous, below paler. Iris greenish above, below golden. Head and body without conspicuous streaks or spots. Fins hyaline yellowish. First dorsal brown medially. Second dorsal and anal rays variegated with brownish dots. Caudal base above with large round brown spot.

Length 47 mm. (Bleeker.)

East Indies, Malaya, in fresh and brackish water.

Koumans describes preserved specimens with body brownish, with dark spot at caudal base and dark transverse stripe at insertion of first dorsal, ends in spot behind pectoral. Dark stripe from behind eye to maxillary. First dorsal with dark spot at base between third and sixth spine. Second dorsal and caudal with dark cross stripes.

Stigmatogobius penango (Popta)

Pseudogobius penango Popta, Zool. med. Rijks Mus. Nat. Hist. Leiden, vol. 7, p. 36, Dec. 12, 1922 (type locality, Penango, south-east Celebes; Rumbia).

Stigmatogobius penango Koumans, Zool. med. Rijks Mus. Nat. Hist. Leiden, vol. 15, p. 13, 1932 (type).

Depth 4 2/7 to 4 1/2; head 3 to 3 1/3, width 1 2/5 to 1 2/3. Snout 5 to 6 in head; eye 3 to 3 1/3; greatly exceeds interorbital; maxillary reaches 1/2 in eye; mouth little oblique, jaws subequal; teeth in bands in jaws; fine, equally short. Tongue broadly round; interorbital 1/5 in head.

Scales 26 in lateral series; 7 transversely; 10 or 11 predorsal. Snout, cheeks and preopercle naked,

opercle scaly. Scales weakly ctenoid to cycloid.

D. VI – 7; A. 7; anal papilla short, broad, rounded behind.

Color dull, scales on free posterior edges reddish brown, and on inner side of brown edge some brown dots. Upper side of head with scales red brown. Preopercle with brown dots and at hind edge reddish brown cross streaks. Under side of head with some brown dots. Pectoral base with reddish brown cross streaks and brown spot.

Length 27 to 31 mm., without caudal. (Popta.)

East Indies.

1333

Stigmatogobius sadanundio (Buchanan-Hamilton)

Gobius sadanundio Buchanan-Hamilton, Fishes of Ganges, pp. 52, 366, 1822 (type locality, Estuaries near Calcutta). — Bleeker, Verh. Batavia. Genoot. (Nal. Schth. Bengal.), vol. 25, p. (50) 102, 1853 (Hoogkly R., Calcutta), vol. 26, pl. 2, fig. 2, 1857. — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 29, 1861 (copied). — Day, Fishes of India, p. 2, p. 296, pl. 63, fig. 10, 1876 (mouths of Ganges; Chittagong; Burma). — Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 46, 1879 (Viti Islands). — Pöhl, Cat. Mus. Godeffroy, no. 10, p. 33, 1884 (Kanathia). — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 164, 1881 (1885) (Manawals). — Duncker, Mitteil. Nat. Mus. Hamburg, vol. 21, p. 160, 1903 (1904) (Knala Langat). — Day, Fauna British India, Fishes, vol. 2, p. 168, fig. 90, 1889 (copied). Suppl., p. 793, 1888 (reference).

— Fowler, Mem. Bishop Mus., vol. 10, p. 403, 1928 (copied); Proc. Acad. Nat. Sci. Philadelphia, vol. 83, p. 448, 1931 (Singapore); Mem. Bishop Mus., vol. 11, no. 5, p. 36, 1931 (reference); ~~Cat.~~ List Fish. Malaya, p. 218, 1937 (reference).

Gobius sedanundio Schmeltz, Cat. Mus. Godeffroy, no. 4, p. 18, 1869 (Kanathia) (errod).

Stigmatogobius sadanundio Bleeker, Verslag Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 201, 1878 (Singapore; Java). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 87, p. 161, 1935 (Bangkok). ~~A~~

(— Koumans, Zool. Med. Rijks Mus. Nat. Hist. Leiden, vol. 15, pt. 1–2, p. 3, 1932.

Gobius pleurostigma Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 28, 1849 (type locality, Surabaya); Nat. Tijds. Ned. Indië, vol. 9, p. 418, 1855 (Brandgermassing, Borneo). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 43, 1861 (copied). — Koumans, Prelim. Rev. Gobioid Fish., p. 102, 1931 (reference).

Stigmatogobius pleurostigma Bleeker: ~~Verh. Koërl. Akad. Wet. Nat. Harlem, ser. , vol. 9, p. 328, 1874 ( );~~ Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 202, 1878 (Singapore, Java).

Depth 3 7/8 to 4; head 3 3/4 to 3 4/5, width 1 4/5. Snout 4 in head; eye 3 to 4, subequal with snout, 1 to 1 1/5 in interorbital; maxillary reaches 1/2 to 3/4 in eye, length 2 in head; mouth low, begins below level of lower eye edge; teeth in several rows, outer row little enlarged, in lower jaw inner row enlarged with canine each side of symphysis and canine like teeth laterally; tongue rounded in front; inter orbital convex, moderately elevated.

Scales 28 in lateral series; 8 or 9 transversely; 9 predorsal. Predorsal region and opercle with large scales. Scales largely ctenoid, cycloid on predorsal.

D. VII — I, 8, fourth spine 2 1/2 in fish without caudal, second dorsal height 1 in head; A. I, 8, fin height 1 2/5 to 1 1/2; caudal

4 to 4 1/5 in rest of fish, rounded behind; least depth of caudal peduncle 1 3/4 to 1 4/5; pectoral 1 1/5, rays 19; ventral rays I, 5, fin 1 3/7 to 1 1/2 in head.

Body and head olive brown, with scattered black spots, white edged, and none larger than pupil. Fins dark or gray black, with large black blotch on first dorsal posteriorly. Other vertical fins with blackish spots.

India, Burma, Malaya, East Indies, Siam, Polynesia. Found in fresh and brackish waters, as well as in the sea.

U. S. N. M., no. 82615. Sokrabaia, Java. W. L. Brind. First ever imported into U. S. A. and received August 22, 1918. Length 50 mm.

A. N. S. P., 4 examples. Singapore. Mr. W. Bartwistle. 1931. Length 45 to 68 mm.

A. N. S. P., 9 examples. Bangkok, Siam. 1934. R. M. de Schauensee. Length 37 to 55 mm.

Stigmatogobius isognathus Bleeker

Stigmatogobius isognathus Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 203, 1878 (type locality, Singapore). — Fowler, List Fish. Malaya, p. 221, 1937 (reference). — Koumans, Zool. Med. Rijks. Mus. Nat. Hist. Leiden, vol. 15, pt. 1-2, p. 6, 1932 (Batavia and estuaries).

Pseudogobius isognathus Koumans, Prelim. Rev. Gobioid Fishes, p. 102, 1931 (reference).

Depth 5; head 4, width 1 3/4. Snout well convex, shorter than eye; eye 3 3/4 in head, 2 in interorbital; maxillary reaches nearly 1/2 in eye, jaws subequal; front of mouth below level of lower eye edge; lips moderate; teeth in several series, outer enlarged series, and series decreasing laterally, inner lower series little larger than outer.

Scales 28? in lateral series; 8 transversely; 9 predorsal, head above and behind eyes and likely opercle scaly, otherwise naked. Scales on middle of side and tail subequally large. Cheek with longitudinal rugae conspicuous. Groove from eye to supracapula conspicuous, with pore close to eye.

D. VII - I, 7, fins not contiguous, much lower than body depth; second and third spines longest,

rays higher than spines; A. I, 7, like second dorsal; caudal rounded, longer than head; pectoral obtuse, rounded, with silky rays, longer than head, rays 15 or 16; ventral rays $\frac{I, 5}{=}$, rounded acutely, not longer than head. Anal papilla elongate, slender.

Body above brownish olive, below paler. Iris violaceous. Vertical brownish band down from eye behind maxillary. Fins, except ventrals, with clear membranes, rays rose or golden. First dorsal above and posteriorly brown. Second dorsal between each ray with 4 to 6 series of brown spots longitudinally. Between rays of caudal 8 to 10 series of double spots or bars transversely. Caudal base above with brown spot.

Length 48 mm.

Malaya.

(Bleeker.)

Stigmatogobius tambujon (Bleeker)

(Gobius tambujon Bleeker, Nat. Tijds. Ned. Indie, vol. 7, p. 319, 1854 (type locality, Perdana), Batavia); vol. 12, p. 293, 1856 (Boleling, Bali). — Weber, Nova Guinea, vol. 5, pt. 2, p. 259, 1908 (Merauke, south New Guinea). — Fowler, Mem. Bishop Mus., vol. 10, p. 403, 1928 (copied).

Günther, Cat. Fish. Brit. Mus., vol. 3, p. 32, 1861 (copied).

Glossogobius tambujon Jordan and Seale, Proc. U. S. Nat. Mus., vol. 33, p. 542, 1907 (Dec. 24) (Buitenzorg).

Stigmatogobius tambujon Koumans, Zool. Med. Rijks. Mus. Nat. Hist. Leiden, Deel. 15, pt. 1 & 2, p. 10, 1932 (Bleeker & specimen).

Depth 5 to 5 1/2 in total; head 4 to 4 1/3, snout obtuse convex, shorter than eye; eye 3 in head, greater than interorbital; maxillary reaches below posterior part of eye; mouth cleft well oblique; lips moderate; teeth in jaws pluriserial, upper outer and inner series larger, pointed, curved, inner lower row little larger, none canines.

Scales 25 or 26 in lateral series; predorsal 8. Scales anteriorly and posteriorly equal.

D. $\frac{VII}{=}$ — $\frac{I, 7 \text{ or } 8}{=}$, separated, lower than body depth, first dorsal acute with third spine longest, second dorsal obtusely convex; A. $\frac{II}{=}$, 6 or 7, like second dorsal, lower; caudal obtuse, rounded, 4 2/3 in body; pectoral rounded, rays 16 or 17; ventral rays $\frac{I, 5}{=}$, final papilla conic, acute.

Above greenish, below rose green. Head with 3 or 4 oblique transverse greenish brown bands. Body with 2 longitudinal rows

of 10 quadrate greenish brown spots, alternating. Fins rose hyaline. dorsal with 2 or 3 longitudinal blackish bands. Caudal with 4 or 5 transverse brownish bands. Ventral and anal below brownish. Length 25 to 35 mm. (Bleeker. East Indies.

1345

Stigmatogobius gastrospilos (Bleeker)

Gobius gastrospilos Bleeker, Nat. Tijds. Ned. Indie, vol. 4, p. 477, 1853 (type locality, Batavia, Java).

Gobius gastrospilus Günther, Cat. Fish. Brit. Mus., vol. 3, p. 43, 1861 (copied).

Stigmatogobius gastrospilus Koumans, Prelim. Rev. Gobioid Fishes, p. 102, 1931 (reference); Zool. Med. Rijks. Mus. Nat. Hist. Leiden, vol. 15, pts. 1-2, p. 8, 1932 (type).

Bleeker, Verslag. Med. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 206, 1878 (Java).

Depth 5; head 4, width 1 2/5. Snout well obtuse convex, shorter than eye; eye 3 1/2 in head, greater than interorbital; maxillary reaches below hind part of eye, upper jaw prominent; mouth cleft little oblique, front end little below level of lower eye edge; outer row of upper teeth little longer than others, lower teeth all small except erect curved inner post-symphyseal canine like ones; interorbital 1/3 of eye.

Scales 26 in lateral series; 7 transversely, 8 predorsal forward to eyes. Scales of head above, predorsal, thorax and belly cycloid, on side and caudal ctenoid, latter also larger than anterior scales. Cheek with conspicuous longitudinal rugae.

D. VII — I, 7, not contiguous, first dorsal rounded and not lower than body depth, second dorsal little

higher than first; A. I, 7, like second dorsal; caudal obtuse, rounded, little longer than head; paired fins rounded, shorter than head; pectoral rays 14, none free; ventral rays I, 5. Anal papilla conic, short.

Color above green, below paler. Scales on body with many small brown spots. Postventral region below with 4 large oblong black spots. Fins with ventrals violaceus, others golden). First dorsal with blue spot posteriorly. Second dorsal, anal and caudal rays variegated with 4 to 7 brown spots.

Length 40 mm. (Bleeker.)

East Indies.

1348

Stigmatogobius poicilosoma (Bleeker

Gobius poicilosoma Bleeker, Verhand. Batavia. Genoot. (Blenn. Gob.), vol. 22, f: 31, 1849 (type locality, Pasuruan in aquis fluvio-marinis); (Midd. Oost-Java), vol. 23, f. 10, 1850.

Gobius poecilosoma Günther, Cat. Fish. Brit. Mus., vol. 3, f. 4, 1861 (reference).

Stigmatogobius poicilosoma) Koumans), Zool. Med. Rijks. Mus. Nat. Hist. Leiden), vol. 15, ft. 1–2, f. 9, 1932 (Bleeker's specimen).

Depth 5 to 6 in length; head 5 1/2, width 1 1/3. Eye 3 in head, advanced in head, greater than interorbital; mouth subhorizontal, upper jaw prominent; maxillary reaches 1/2 in eye; teeth in front in several rows, laterally number of rows decrease; outer row of teeth little enlarged, laterally inner lower row little enlarged, none canines; tongue rounded.

Scales 20 (Koumans gives 26) in lateral series; 7.? transversely; 7.? predorsal. Scales ctenoid, become cycloid before first dorsal. Head scaled above behind eyes, and opercle scaly.

D. VI — I, 8 (Koumans gives 7), fins close together; A. I, 7, short like second dorsal; pectoral rays 12?; ventral I, 5. Anal papilla oblong, obtusely rounded.

Color of body greenish, with many irregular brownish blotches. Second dorsal and caudal variegated with black.

Length 39 mm.

(Bleeker, Koumans)

Stigmatogobius amblyrhynchus Bleeker

Stigmatogobius amblyrhynchus Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 12, p. 207, 1878 (type locality, Batavia and Tjisadat, Java). — Koumans, Zool. Med. Rijks. Mus. Nat. Hist. Leiden, vol. 15, pt. 1-2, p. 13 (type said to be lost).
1932

Depth 4 1/3 to 4 1/2; head 4; width 1 1/5. Snout obtuse convex, shorter than eye; eye 3 to 3 1/2 in head, greater than interorbital; maxillary extends below hind part of eye, lower jaw shorter; mouth cleft begins in front below level of lower eye edge; little inclined; lips fleshy; teeth small, except lower inner postsymphyseal erect canines; interorbital width 1/4 to 1/3 of eye.

Scales 26 in lateral series; 7 transversely; 7 predorsal forward

to eyes. Scales on head above), predorsal, thorax and belly cycloid, on sides and tail ctenoid and subequally large, anteriorly on sides largest. Cheeks and preopercle scaleless: Postocular groove larger near eye.

D. VI – I, 7 or 8, separated, first dorsal lower to greater than body depth, second and third spines very little extended beyond ends of spines; second dorsal little or not lower than body; A. I, 7 or 8, like second dorsal; caudal obtuse, rounded, longer than head; pectoral obtusely rounded, rays not or little free, 14 or 15, little to not longer than head; ventral rays I, 5, rounded, not or little longer than head. Anal papilla acutely conic or obtuse.

Body above deep green or olive, below paler. Iris golden green. Back and sides variegated with

irregular small brown spots. Fins yellowish. First dorsal with 2 broad bands or streaks of black obliquely. Second dorsal and caudal with rays dotted brown. Ventral sometimes violaceous.

Length 38 to 45 mm. (Bleeker.)

East Indies. Koumans thinks it closely allied with Stigmatogobius javanicus, differing in the maxillary reaching opposite hind pupil & edge and pattern of coloring.

1353

Stigmatogobius javanicus (Bleeker)

Gobius javanicus Bleeker, hat. Tijds. Ned. Indie, vol. 11, p. 88, 1856 (type locality, Patjitan, South Java), p. 385 (Kajeli, Buru; ned. Tijds. dierk., vol. 2, p. 150, 1865 (Buru); Weber, Nova Guinea, vol. 5, pt. 2, p. 260, 1908 (Mamapiri and Kliphang River, north New Guinea); vol. 9, pt. 4, p. 600, 1913 (Lorentz R. at Alkmaar).

Günther, Cat. Fish. Brit. Mus., vol. 3, p. 33, 1861 (copied).

Vaimosa javanica Fowler, Mem. Bishop Mus., vol. 10, p. 408, 1928 (copied).

Stigmatogobius javanicus Koumans, Zool. Mededel. Rijksm. Nat. Hist. Leiden, vol. 15, pt. 11-2, p. 111, 1932 (Bleeker's material; Boeton fresh water; Rembon; Harapekor; Andolean); p. 142, 1935 (type of Gobius rouxi).

1354

Gobius rouxi Weber, Abhand. Senckenb. Gesell., vol. 34, p. 40, 1911 (type locality, Aru Islands).

Depth 5 in total; head 5 1/3, width 1 1/3. Snout obtuse convex; eye 2 3/4 in head; greater than interorbital; maxillary extends below front part of eye; mouth cleft little inclined, short, lower jaw shorter; teeth in jaws small, pluriserial, outer row little enlarged, none canines; interorbital 1/3 of eye.

Scales 27 in lateral series; 7 predorsal. Scales large, posteriorly and anteriorly subequal. Postocular groove conspicuous. Muzzle, cheeks and head below naked, opercle scaly.

D. VI — I, 8, close but separated, lower than body, first dorsal obtuse, spines flexible and median longest, second dorsal little higher than first and first ray flexible; A. I, 7, lower than second dorsal; caudal obtuse, rounded, 4 1/2 in ~~body~~ total; pectoral rays 15, obtuse, rotunded; ventral rounded,

length 5 in ~~body~~ total, rays I, 5. Anal papilla obtuse.

Body green above, below greenish rose. Head with 3 deep violet-blue spots, anteriorly 2 suborular and posterior on opercle. Scales on back and sides with many basal oblong transverse brown oblong spots. Fins golden-yellow. Dorsal and caudal rays each with 5 to 7 brown spots; form transverse bands. First dorsal posteriorly with large round black spot.

Length 44 mm.
East Indies.

(Bleeker.)

Stigmatogobius neglectus Koumans

Stigmatogobius neglectus Koumans, Zool. Med. Rijks Mus. Nat. Hist. Leiden, vol. 15, pt. 1-2, p. 5, 1932. (type locality, Western Java in fresh and brackish estuaries of rivers).

Pseudogobius neglectus (Bleeker) Koumans, Prelim. Revis. Genera Gobioid Fish., p. 102, 1931 (name only; no locality).

Body elongate, little compressed; head subcylindrical. Snout obtuse; mouth little oblique, lower jaw little prominent; maxillary extends 1/2 in eye; teeth in each jaw in front in several rows, laterally number of rows decrease to 1, outer row little enlarged and no canine teeth; tongue rounded.

Scales 26 in lateral series; 7 transversely; 7 predorsal. Head scaled above behind eyes; opercle with large scales. Scales ctenoid, become cycloid before first dorsal. Two mucous canals run longitudinally over preopercle.

D. VI— 7, first close together, second dorsal and anal short; A. 6 or 7; pectoral rays 18.

Color in spirits, brownish, without markings.

Length 32 to 34 mm. (Koumans.)

Western Java. The above based on 16 specimens in the Leiden Museum from Bleeker's collection.

Genus Awaous Valenciennes

Awaous Valenciennes, Hist. Nat. Poiss., vol. 12, p. 97, 1837. (Type Gobius ocellaris Broussonet, designated by Bleeker, Arch. Néerl. Sci. Nat. Harlem, vol. 9, p. 320, 1874. (173)

Chonophorus Poey, Mem. Hist. Nat. Cuba, vol. 2, p. 274, 1856-58 (1861). (Type Chonophorus bucculentus Poey, monotypic.)

Trichopharynx Ogilby, Proc. Linn. Soc. New South Wales, vol. 22, pt. 4, p. 769, Nov. 24, 1897 (1898). (Type Gobius crassilabris Günther, orthotypic.)

(Awaous Bleeker, Verh. Kon. Akad. Wet. Amsterdam (Ile Maurice), vol. 18, p. 17, 1879. (Type Gobius ocellaris Broussonet.)

Body elongate, anteriorly partly cylindrical, posteriorly compressed. Head elongate. Snout very long, much longer than eye. Eye median in head length, high. Mouth oblique, upper jaw prominent. Lips thick. Teeth in both jaws in several rows, outer somewhat enlarged, none canines. Tongue bilobate. Front nostril in short tube. Bony interorbital less than eye. Scales 40 to 80 in axiall lateral series, ctenoid. Head scaled above posterior to eyes - and sometimes on upper parts of preopercle and opercle. Breast and belly scaled. Mucous canals not distinct. Dorsal fins close Gill openings little longer than pectoral basal width. Isthmus broad. Inner edge of shoulder girdle with some fleshy flaps. Branchiostegals 5.

together, first fin with 6 spines, second with 10 to 12 rays. Caudal obtuse, shorter than head. Pectoral without free silk like rays, base scaly. Ventrals united, oblong, under pectorals.

1363

Lewarus ocellaris Bleeker, Verh. Kon. Akad. Wet. Amsterdam (Maurice), vol. 18, p. 17, 1879 (reference).

Hepatus achilles (Shaw)

Three, 173 to 223 mm. Brilliant orange cadmium blotch includes caudal spine.

A. III, 10, I; D. IV-I, 8, I; scales 39 + 3.

Back and head above dark gray, with blue reflections, sides and below silvery white. Iris silvery white. Dorsals, caudal and pectoral grayish, last dark gray at base and in axil. Ventral and anal whitish.

Seven, 30 to 35 mm., Chatham Island, February 13; nine, 28 to 50 mm., Tagus Cove, Albermarle Island, February 28; seven, 30 to 51 mm., also Tagus Cove, March 3.

Seale describes Agonostomus hancocksi (Proc. Cal. Acad. Sci., ser. 4, vol. 20, dec. 30, 1932, p. 467, type locality, About one-half mile up a fresh water stream which empties into fresh-water bay on south side of Chatham), with scales 44, 13 transversely, smooth lips without papillae or teeth and the anal with ut 2 spines. Possibly Mugus splendens Mohr (Zool.

1364

Anas ocellaris Blasius, Lieb.
Acad. Sci. Nat. Harlem, vol. 1, p. 320,
1874

— Jordan and Seale, Bull. Bur. Fisher.,
vol. 25, p. 405, 1905 (1906) (Pago Pago; Apia).
— Jordan and Richardson, Bull. Bur.
Fisher., vol. 27, p. 277, 1908 (Iloilo);
Philippine Journ. Sci., p. 49, 1910
(reference). — Fowler, Proc. Acad.
Nat. Sci. Philadelphia, vol. 75, p. 43,
1923 (Madagascar). — Tamiyama, Jap.
Journ. Zool., vol. 7, no. 1, p. 75, 1936
(Amami-Oshima; Taihoku, Formosa).

Apocryptodon montalbani Herre,

Awaous ocellaris (Broussonet)

(Gobius ocellaris Broussonet, Ichth., no pagination, pl. 142, 1782 (type locality, fresh water of Tahiti). — Bonnaterre, Tabl. Ichth., p. 65, pl. 36, fig. 142, 1788 (Tahiti). — Gmelin, Syst. Nat. Linn., pt. 1, p. 1204, 1789 (copied). — Valenciennes, Hist. Nat. Poiss., vol. 12, p. (74) 98, 1837 (Tahiti). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 64, 1861 (copied) — Schmeltz, Cat. Mus. Godeffroy, No. 2, p. 8, 1868 (Neva R., Viti Levu); No. 3, p. 9, 1866 (Viti Levu); No. 4, p. 18, 1869 (Viti Levu). — Günther, Journ. Mus. Godeffroy, vol. 6, pt. 11, p. 177, pl. 108, fig. c, 1877 (Samoa; Rarotonga; Viti Levu). — Schmeltz, Cat. Mus. Godeffroy, No. 7, p. 46, 1879 (Viti Islands). — Pöhl, Cat. Mus. Godeffroy, No. 10, p. 33, 1884 (Viti). — Weber and Beaufort, Nova Caledonia, Sarasin and Roux, Zool., vol. 2, pt. 1, p. 38, 1915 (Tchalabel).

1365

Chonophorus ocellaris Herre), Gobies of Philippines, p. 218, pl. 17, fig. 2, 1927 (Pansipit R.; Chicago; Banyan R.; Libuyan Island; San Jose; Lasay; Cabalian; Bangar). — Fowler, Chem. Bishop Mus., vol. 10, p. 409, 1928 (Pago Pago); vol. 11, No. 5, p. 362, 1931 (reference). — Herre, Journ. Pan-Pac. Res. Inst., vol. 7, No. 1, p. 6, Jan.-March 1932 (fresh waters of Tahiti). — Fowler, Mem. Bishop Mus., vol. 11, No. 6, p. 443, 1934 (Apia). — Herre, Fishes Herre 1931 Philippine Exped., p. 87, 1934 (Tanjay River; San Ramon); Field Mus. Public., No. 353, Zool. Ser. vol. 21, p. 375, April 15, 1936 (Tahiti; Fiji).

p. 817

— Tanaka, Fishes of Japan, vol. 42, v. pl. 173, fig. 478, June 4, 1928 (Taihoku River, Formosa).

Gobius punctatus (Volander) Valenciennes, Hist. Nat. Poiss., vol. 12, p. (76) 100, 1837 (name in text).

Gobius nigripinnis Valenciennes, op. cit., p. (76) 101, 1837 (type locality, Réunion).

Gobius pallidus Valenciennes, op. cit., p. (77) 102, 1837 (type locality, Mauritius). Awaous pallidus B. Fleischer, Verh. Kon. Akad. Wet. Amsterdam, vol. 18, p. 17, 1879 (reference) Gobius (Awaous) guamensis Valenciennes, op. cit., p. (77) 103, 1837 (type locality, Fresh waters of Guam). — Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 46, 1879 (Viti Is.). — Sauvage, Bull. Soc. Philom. Paris, p. 7, 1879 (Guam). — Pöhl, Cat. Mus. Godeffroy, no. 10, p. 33, 1884 (Kanathia). — Elera, Cat. Fauna Filipinas, vol. 1, p. 519, 1895 (Marianas).

Awaous guamensis Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 405, 1905 (1906) (reference).

1367

Chaenophorus guamensis Fowler, Mem. Bishop Mus., vol. 10, p. 409, 1928 (Hawaii, Hilo, Oahu; Maui, Honolulu, Waimia River, Haula Stream); vol. 11, No. 5, p. 362, 1931 (reference); vol. 11, No. 6, p. 443, 1934 (Waimea River, Hawaii; Naroisoro-Isoyawa, Fiji).

Gobius stamineus Eydoux and Souleyet, Voy. Bonite, Zool., vol. 1, p. 179, pl. 5, fig. 5, 1841 (type locality, Hawaiian Islands). — Günther, Rep. Voy. Challenger, vol. 1, pt. 6, p. 59, 1880 (fresh water Honolulu; Hawaii).

Awaous stamineus Jenkins, Bull. U. S. Fish Comm., vol. 22, p. 502, 1902 (1903) (Honolulu, Hilo). — Snyder, Bull. U. S. Fish Comm., vol. 22, p. 536, 1902 (1904) (Anahulu R., Waimea, Hanalei, Hanapepe, Hulei R., Wailuki R.). — Jordan and Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1, p. 493, 1903 (1905) (Honolulu, Waialua, Hilo, Mauna Loa, Henoke Creek, Kilihi Creek). — Jordan and Seale, Bull. Bur. Fisheries, vol. 25, p. 405, 1905 (1906) (reference). — Fowler, Copeia, No. 112, p. 84, Nov. 20, 1922 (Hawaii).

Chonophorus stamineus Jordan and Jordan, Mem. Carnegie Mus., vol. 10, No. 1, p. 79, Dec. 1922 (Hawaii).

1369

Gobius melanocephalus Bleeker,

(Gobius melanocephalus Bleeker, Verh. Batavia, Genoot. (Blenn. Gob.), vol. 22, p. 33 (type locality, Bogowonto River at Purworedjo, Java).
— Weber, Siboga Exped., vol. 57, Fische, p. 465, 1913 (Seba, Savu); Nova Guinea, vol. 9, pt. 4, p. 599, 1913 (Timbai River mouth).
— Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 818, Oct. 1927 (Natal).
— Beaufort, Bijd. Dierk. Amsterdam, vol. 19, p. 139, 1913 (Rabiai River, Waigiu, fresh water).

Chonophorus melanocephalus Fowler, ~~Ann~~ Mem. Bishop Mus., vol. 10, p. 470, 1928 (copied).

Gobius melanocephalus Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 33, 1849 (type locality, Boyowonto River, Purworedjo). — Weber, Nova Guinea, vol. 9, pt. 4, p. 599, 1913 (Lembai River, mouth). — Beaufort, Bijdr. Dierk. (Amsterdam), vol. 19, p. 139, 1913 (Rabiai River, Waigiu, fresh water).

Chonophorus melanocephalus Herre, Gobies of Philippines, p. 216, pl. 17, fig. 1, 1927 (Laoag River, Barrio La Paz; Laoag; Ilocos Norte; Abra River; Bangued; Kalaba; Banang Sur; Bugney; Tuguegarao; Lamuta; Karoan; Magon; Chico River; Kattan River; Kabulig River; Pansipit River; Bigaa River; Arumbay River; Libog River; Mangsor River; Yawa River; Baco; San Jose; Army). — Fowler, Mem. Bishop Mus., vol. 10, p. 410, 1928 (copied). — Herre, Fishes Herre 1931 Philippine Exped., p. 87, 1934 (Bagabag, Lemery, Libog R., Tanjay R., Jolo).

Gobius personatus Bleeker, Verh. Batavia. Genoot. (Blenn. Gobioid.), vol. 22, p. 34, 1849 (type locality, Verijin River, Banjumas); (Middl. Oost-Java), vol. 23, p. 10, 1850; Nat. Tijds. Ned. Indie, vol. 8, p. 443, 1855 (Celebes). — Day, Fishes of India, pt. 2, p. 292, pl. 63, fig. 6, 1876 (Andamans); Fauna Brit. India, Fish., vol. 4, p. 263, 1889.

Awaous personatus Duncker, Mitt. Naturh. Mus. Hamburg, vol. 29, p. 252, 1911 (reference).

Chonophorus personatus Jordan and Tanaka, Jour. Carnegie Inst., vol. 17, p. 274, pl. 22, fig. 2, 1925 (Yabu R., Oshima; Yabuchi R., Amami-Oshima).

Gobius grammepomus Bleeker, Verh. Batavia. Genoot. (Blenn. Gobioid.), vol. 24, p. 34, 1849 (type locality, Bogowonto River, Purworedjo); Nat. Tijds. Ned. Indie, vol. 9, p. (192) 200, 1855 (Tjibiliong, Tjiringin, Patjitan, Purworedjo, Banjumas, Java; Lawangan, Celebes; Telobabetong, Padang, Sumatra); vol. 9, p. 284, 1855 (Lufwangan, Celebes), p. 493 (Limasing and Wadawang Rivers, Batjan); vol. 11, p. 385, 1856 (Kajeli, Buru); vol. 12, p. 293, 1856 (Boleling, Bali); Act. Soc. Sci. Ind. Neerl., vol. 1, no. 5, p. 6, 1856 (Amboina); Nat. Tijds. Ned.

Indie, vol. 13, f. 56, 1857 (Kajeli, Buru), f. 384 (Batjan); vol. 16, f. 241, 1858 (Tjilatjap); Act. Soc. Sci. Ind. Neerl., vol. 5, no. 8, f. 1, 1858–59 (Klabat dialect, Celebes); Nat. Tijds. Ned. Indie, vol. 22, f. 239, 1860 (Bali). — Günther, Cat. Fish. Brit. Mus., vol. 3, f. 64, 1861. (Ceylon; Madras; Borneo), f. 554 (reference); — Károli, Termesz. Füzetek, Budapest, vol. 5, f. f. 165, 1881 (1882) (Nagasaki; Palaboen). — Boulenger, Ann. Mag. Nat. Hist. London, ser. 6, vol. 15, f. 185, 1895 (Palawan). — Pellegrin, Bull. Mus. Hist. Nat. Paris, vol. 4, f. 229, 1898 (Mariannes).

Awaous grammepomus Jordan and Richardson, Philippine Journ. Sci., f. 49, 1910 (reference).

→ Gobius crassilabris Günther, Cat. Fish. Brit. Mus., vol. 3, f. 63, 1861 (type locality, Nualan; Aneiteum); Ann. Mag. Nat. Hist. London, ser. 3, vol. 20, f. 61, 1867 (Australia). — Schmeltz, Cat. Mus. Godeffroy, no. 4, f. 18, 1869 (Hamusi, Kandavu). — Günther, Journ. Mus. Godeffroy, vol. 6, pt. 11, f. 178, pl. 108, fig. B, 1877 (Nualau; Aneiteum).

— Weber and Beaufort, Fauna Caledonia, Jarasin and Roux, Zool., vol. 2, pt. 1, p. 37, 1915 (Bondé, trib. didet, Tchalabel, Dubatche, Cone R., Tionaca R., between Coula and Boréare, Cui, Mont Canala, Coin de la Foa).

Glossogobius grammepomus Ogilvie, Ann. Carnegie Mus., vol. 12, p. 304, 1919 (Ozanfo, Giran, Formosa).

Awaous crassilabris Streets, Bull. U. S. Nat. Mus., no. 7, p. 59, 1877 (fresh waters of Oahu). — Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 405, 1905 (1906) (reference). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 517, 1900 (Hawaiian Islands). — Seale, Occas. Pap. Bishop Mus., vol. 4, no. 1, p. 84, 1906 (Shortland Island). — McCulloch and Ogilby, Rec. Austral. Mus., vol. 12, no. 10, p. 227, July 14, 1919 (Townsville).

~~Chonophorus~~

Trichopharynx crassilabris Ogilby, Proc. Linn. Soc. New South Wales, vol. 22, p. 769, 1891 (New Caledonia).

1379

Chonophorus crassilabris Mc Cullock and Whitley, Mem. Queensland Mus., vol. 8, pt 2, p. 172, July 7, 1925 (reference).

— Mc Cullock, Austral. Mus. Mem., no. 5, pt. 3, p. 172, Nov. 28, 1929 (reference).

1375

Awaous aeneofuscus (Peters)

Gobius aeneofuscus Peters, Monatsb. Akad. Wiss. Berlin, p. 681, 1852 (type locality, Zambeze prope Sena, Mozambique). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 61, 1861 (Sena ——). — Peters, Reise Mossambique, vol. 4, p. 18, pl. 3, fig. 1, 1868 (type). — Sauvage, Hist. Nat. Madagascar, Poiss., pl. 38, fig. 1, 1891 — Boulenger, Cat. Fresh Water Fishes of Africa, vol. 4, p. 30, fig. 17, 1916 (Inkata R.; Sena; Tete; Umsinduzi R.; Umerina; Madagascar). — Norman, Ann. Mag. Nat. Hist. London, ser. 9, vol. 9, p. 322, 1922.

Gobius (Awaous) aeneofuscus Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 819, Oct. 1927 (Sabi and White Rivers, Transvaal; Pietermaritzburg and Durban, Natal; Sena and Tette, Zambezi R.).

Gobius banana (not Valenciennes) Sauvage, Hist. Nat. Madagascar, Poiss., p. 376, ~~pl. 38, fig. 1,~~ 1891 (part).

Gobius (Awaous) littoratus (Hecbel) Steindachner, Sitzs. Ber. Akad. Wiss. Wien, vol. 42, p. 289, pl. 1, figs. 4–5, 1861 (type locality, Philippines).

Eucteno gobius striatus Day, Proc. Zool. Soc. London, p. 272, fig., 1868 (type locality, Madras).

Gobius stoliczkai Day, l.c., p. 692, 1870 (type locality, Andamans, in brackish water).

Gobius jayakari Boulenger, Proc. Zool. Soc. London, p. 663, pl. 55, fig., 1887 (type locality, Muscat, Arabia).

1377

Gobius malabaricus (not day) Gilchrist and Thompson, Ann. South African Mus., vol. 13, pt. 3, p. 81, 1913 1914 (Natal); Ann. Durban Mus., vol. 1, pt. 4, p. 403, 1917.

(1378) 4

depth 4 4/5 to 6; head 2 9/10 to 3 1/3, width 1 ~~1/2~~ 3/4 to 2 7/8. Snout 1 3/4 to 3 ~~7/8~~ in head from snout tip; 2 1/2 in snout, 1 to 1 1/2 in interorbital eye ~~4 1/2 to 5~~ (young) to 8; maxillary reaches 4/5 in eye or ~ opposite hind eye edge, to front pupil edge in young, expansion 1 1/4 to 2 in eye, length 1 3/4 to 3 in head from snout tip; teeth small, in bands in jaws; tongue emarginate in front; interorbital 5 to 6 1/5, little concave. Gill rakers 3 + 4, short points, 2 1/2 in gill filaments, latter slightly longer than eye.

Scales with 58 to 71 + 2 to 7 in axial lateral series; 16 to 20 transversely at soft dorsal origin; 28 to 40 predorsal. Lines of papillae on head as in L. geniguttatus. Usually a median horizontal division like on cheeks. Scales with 11 to 21 basal radiating

striae; 23 to 26 + 18 to 27 apical denticles, imbedded; circuli fine or moderate.

~~Brownish~~

D. VI (once V) — I, 10, I, A. I, 9, I or I, 10, I, third spine 1/2 to 2 in head, second ray 2 to 2 1/8; ~~A.~~ second ray 2 3/4 to 3 1/5; caudal 1 1/4 to 1 1/2, convex behind; least depth of caudal peduncle 2 1/3 ~~to 2~~ to 2 7/8; pectoral 1 1/3 to 1 3/5, rays 14 ~~to~~ 15; ventral rays I, 5, fin 1 1/2 to 1 3/5 in head; anal papilla 3/5 of eye.

Brownish, paler to whitish below. Soft dorsal with 6 to 9 transverse waved dark bars. Caudal rays marked with about 12 similar bars. Spinous dorsal sometimes dark, especially marginally, often with 8 or 9 oblique dark lines.

Although I have only a single specimen from Mauritius representing the South and South-east African - Madagascar form, or Globus aeneofuscus Peters, I find no characters on which to maintain its acceptance. Said to reach 250 mm.

= Cellogobius

Valenciennea hasseltii (Bleeker)

Eleotris hasseltii Bleeker, Nat. Tijds. Ned. Indie, vol. 1, p. 253, fig., 1851 (type locality); vol. 11, p. 412, 1856 (Boero). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 116, 1861 (copied). — Bleeker, Arch. Néerl. Sci. Nat. Harlem, vol. 11, p. 318, 1874. — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 167, 1881 (1882) (Ceylon).

Valenciennea hasseltii Bleeker, Verslag. Kon. Akad. Wet. Amsterdam, ser. 2, vol. 2, p. 275, 1868 (Obi).

Valenciennesia hasseltii Bleeker, op. cit., ser. 2, vol. 2, p. 300, 1868 (Waigiu).

Twenty-four examples. Calugan River 3 miles from mouth near Paluan Bay, Mindoro. December 11, 1908. Length 23 to 42 mm.

Thirty-seven examples. Gorontalo River, Celebes. November 15, 1909. Length 37 to 90 mm.

One example. Baganga River, Mindanao. May 13, 1908. Length 27 mm.

One example. Bito Lake, Abuyog, Leyte. July 26, 1909. Length 127 mm.

Two examples. Cabugao River, Catanduanes Island. June 9, 1909. Length 107 to 112 mm.

Two examples. Dumaca River, Luzon. February 25, 1909. Length 78 to 86 mm.

One example. Iwahig River and tributaries, Puerta Princessa, Palawan. April 4, 1909. Length 99 mm.

9569. Inahinog River, Camiguin Island. August 3, 1909. Length 160 mm.

One example. Inalinao River. April 2, 1909. Length 86 mm.

17943, 17947, 17949. Inananga River, Cebu. August 25, 1909. Length 78 to 138 mm.

One example. Inurieta Bay, Cascade River, Mindanao. August 20, 1909. Length 124 mm.

One example. Hanjan River, Mindoro. June 5, 1908. Length 79 mm.

Four examples. Hato River. June 17, 1909. Length 50 to 78 mm.

One example. Putoc River, back water ponds, Mariveles. January 30, 1909. Length 108 mm.

198[38 I 1748]. San Roque, Leyte. July 29, 1909. Length 110 mm.

9551. Santiago River, Pagapas Bay. February 28, 1909. Length 115 mm.

Four examples. Varadero Bay, small creek, Mindoro. October 27, 1909. Length 70 to 118 mm.

Six examples. Yava River, Legaspi. June 7, 1909. Length 30 to 51 mm.

Three examples. Zamboanga River, Zamboanga. October 9, 1909. Length 127 to 160 mm.

18133 to 18135. Amboina stream, Amboina, Dutch East Indies. December 5, 1909. Three examples. Length 68 to 138 mm. Agree in every way with Herre's pl. 17 fig. 2 of Chaetodon ocellaris, while most of the other materials listed above are like his pl. 17, fig. 1 of C. melanocephalus.

21215. Ulai River, Boero Island. December 9, 1909. Length 96 mm.

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U. S. N. Mus., No. 17474. Oahu, Hawaiian Islands. Dr. J. T. Steets. Four examples.

U. S. N. Mus., No. 17996. Honolulu. Dr. J. T. Steets.

U. S. N. M., No. 51147. Hawaii. Bureau of Fisheries.

U. S. N. M., No. 55108. Hawaii. Bureau of Fisheries. 22 examples.

U. S. N. M., No. 55119. Hawaii. Bureau of Fisheries. Nine examples.

U. S. N. M., No. 55132. Waimea River, Hawaii. Albatross Collection.

U. S. N. M., No. 55144. Hawaii. Bureau of Fisheries. 14 examples.

U. S. N. M., No. 55390. Hawaii. Bureau of Fisheries. Seven examples.

U. S. N. M., No. 55391. Hawaii. Bureau of Fisheries. 22 examples.

U. S. N. M., No. 55395. Hawaii.
Bureau of Fisheries.

U. S. N. M., No. 55396. Hawaii.
Bureau of Fisheries. Six examples.

U. S. N. M., No. 55397. Hawaii.
Bureau of Fisheries. Seven examples.

U. S. N. M., No. 55398. Hawaii.
Bureau of Fisheries. 26 examples.

U. S. N. M., No. 82800. No locality.
Wilkes Exploring Expedition. Length
95 mm.

U. S. N. M., No. 82831. Oahu.
Wilkes Exploring Expedition. Length
260 mm.

U. S. N. M., No. 82859. Oahu.
Wilkes Exploring Expedition.

U. S. N. M., No. 82860. Oahu.
Wilkes Exploring Expedition.

U. S. N. M., No. 82869. Hilo, Hawaii.
Wilkes Exploring Expedition.

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U. S. N. M., No. 82890. Maui, Hawaiian Islands. Wilkes Exploring Expedition.

U. S. N. M., No. 83087. Manila, Philippines. Wilkes Exploring Expedition.

U. S. N. M., no. 17974. Oahu, Hawaiian Islands. Dr. J. H. Streets. Length 160 to 230 mm. Five examples.

U. S. N. M., no. 17996. Mountain streams of Oahu. September 1872. Dr. J. H. Streets. Length 111 to 150 mm. Two examples.

U. S. N. M., no. 51147. Hawaiian Islands. 1901. U. S. Fish Comm. (04597). Length 198 mm.

U. S. N. M., no. 55108. Hanalei River, Kauai, Hawaiian Islands. June 22, 1902. Bureau of Fisheries. Albatross Explorations. Length 60 to 152 mm. Twenty-two examples. Taken in lower course of stream affected by tides.

U. S. N. M., no. 55119. Waimea River, Kauai, Hawaiian Islands. Bureau of Fisheries. Albatross Explorations. Length 92 to 159 mm. Nine examples.

U. S. N. M., no. 55132. Waimea River, Kauai. Bureau of Fisheries. June 15, 1902. Albatross Explorations. Length 79 to 174 mm. Fourteen examples.

U. S. N. M., no. 55144. Waimea River, Kauai. Bureau of Fisheries. Albatross Explorations 1902. Length 78 to 120 mm. Fourteen examples.

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U. S. N. M., no. 55152. Hanapepe River, Kauai. U. S. Fish Comm. 1902. Albatross Explorations. Length 39 to 90 mm. Twenty-six examples.

U. S. N. M., no. 55390. Hilo, Hawaii. D. S. Jordan and B. W. Evermann. Length 27 to 50 mm. Seven examples.

U. S. N. M., no. 55391. Hawaii. D. S. Jordan and B. W. Evermann. Length 25 to 150 mm. Twenty-nine examples.

U. S. N. M., no. 55395. Hanalei River, Kauai. U. S. Fish Comm. Albatross Explorations 1902. Length 138 mm.

U. S. N. M., no. 55396. Honolulu, Oahu. U. S. Fish Comm. Albatross Explorations 1896. Length 111 to 160 mm. Five examples. Specimen of Eleotris sandvicensis and one of Polydactylus plebeius in addition, and evidently intentionally included.

1390

Glossogobius giuris Buchanan-Hamilton

Gobius giuris Buchanan-Hamilton, Fishes of Ganges, p. 51, pl. 33, fig. 5, 1822 (type locality, All fresh waters of Gangetic provinces).

— Kner, Reise Novara, Fische, p. 173, 1865 (Ceylon; Madras; Hong Kong; Tahiti).
— Károli, Termesz. Füzetek, Budapest, vol. 5, p. 164, 1881 (1882) (Rangoon; Bangkok).

~~— Rutter, Proc. Acad. Nat. Sci. Philadelphia, p. 84, 1897 (Iwatow).~~

U. S. N. M., no. 55397. Wailuku River, Maui. U. S. Fish Comm. Albatross Explorations 1902. Length 28 to 122 mm. Forty-eight examples.

U. S. N. M., no. 55398. Waimea River, Kauai. U. S. Fish Comm. Albatross Explorations 1902. Length 83 to 130 mm. Twenty-four examples.

U. S. N. M., no. 82800. No locality. Wilkes Exploring Expedition. Length 93? mm.

U. S. N. M., no. 82831. Oahu, Hawaiian Islands. Wilkes Exploring Expedition. Length 268 mm.

U. S. N. M., no. 82859. Hawaii. Wilkes Exploring Expedition. Length 93 mm.

U. S. N. M., no. 82860. Hawaii. Wilkes Exploring Expedition. Length 96 mm.

U. S. N. M., no. 82869. Hawaii. Wilkes Exploring Expedition. Length 190 mm.

1392

U. S. N. M., no. 82890. Maui, Hawaiian Islands. Wilkes Exploring Expedition. Length 127 mm.

U. S. N. M., no. 83087. Manila, Philippines. Wilkes Exploring Expedition. Length 192 mm.

U. S. N. M., no. 38289. Pago Pago, Samoa. Dr. W. H. Jones. Length 82 mm.

U. S. N. M., no. 52381. Apia, Samoa. Bureau of Fisheries. Length 118 to 154 mm. Five examples.

U. S. N. M., no. 72256. Mindoro, Philippines. R. C. Mc Gregor. Length 124 mm.

U. S. N. M., no. 72257. Mindoro, R. C. Mc Gregor. Length 120 mm.

U. S. N. M., no. 19983. Mauritius. Length 160 mm. to end of broken caudal. As Amaoura striatus. Col. Nicholas Pike.

1394

Genus Glossogobius Gill

Ann. Lyc. Nat. Hist. New York,
Glossogobius Gill, Ann. Lyc. Nat. Hist.
New York, vol. 7, p. 46, ~~Proc. Acad. Nat.~~
~~Sci. Philadelphia~~, p. 146, 1859 ~~(1860)~~.
vol. 7, p. 46, 1859 62.
(Type Gobius platycephalus Richardson =
Gobius giuris Buchanan-Hamilton, monotypic[1]).

Cephalogobius Bleeker, Arch. Néerl.
Sci. Nat. Harlem, vol. 9, p. 320, 1874.
(Type Gobius subditus Cantor = Gobius
biocellatus Valenciennes, orthotypic.)

1395

Body elongate, cylindrical anteriorly, compressed posteriorly. Head depressed, pointed. Snout 1 1/2 to 2 times longer than eye. Eye avanced to front half of head. Mouth little inclined, lower jaw prominent. Maxillary not or nearly not prolonged posteriorly. Teeth in both jaws in several rows, outer and inner are enlarged, uneven, widely set, outer row curved. Tongue bilobate. Bony interorbital 1/3 to 3/4 diameter of eye. Front nostril in short tube. Gill openings wide, extend well forward bellow. Isthmus narrow. Inner edge of shoulder girdle without fleshy flaps. Scales 25 to 40 in axial lateral series, ctenoid, become cycloid on head, which scaled behind eyes. Upper parts

of preopercle and opercle sometimes scaled. Longitudinal parallel mucous canals from mouth to hind edge of preopercle, oblique one over opercle. Dorsal fins separated, first with 6 spines, second and anal with 7 to 11 rays. Caudal oblong to pointed. Pectoral without free silk like rays, base scaled. Ventrals united, oblong, below pectorals.

1397

Glossogobius vomer Whitley

Glossogobius vomer Whitley, Records Austral. Mus., vol. 17, ~~pt.~~ no. 3, p. 135, pl. 32, fig. 1, June 27, 1929 (type locality, Swan River, Western Australia). — Mc Culloch, Austral. Mus. Mem., no. 5, pt. 3, p. 373, Nov. 28, 1929 (reference).

Analysis of Species

a.' Glossogobius. No rounded projection from upper part of iris extending into pupil of eye; size usually larger.

b.' Depth less than 7.

c.' Predorsal scales 14 to 17. celebius

c.² Predorsal scales 21 to 26.

d.' Head and body not speckled or dotted with black. giurus

d.² Head and body with black specks and dots. brunneus

b.² Depth 7⅛ to 7½. tentaculatus

a.² Cephalogobius. Rounded projection from upper part of iris extended into pupil; predorsal scales 21 to 26; size small. biocellatus

Gobius giurii Valenciennes, Hist. Nat. Poiss., vol. 12, p. (54) 72, 1837 (Bengal; Bombay).

— Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 24, 1849 (Batavia; Samarang; Tegal; Surabaya; Bangcallang; Sumanap, Java; vol. 22 (Madura), p. 5, 1849 (Kammal); vol. 25, p. 50, 1853 (reference); Nat. Tijds. (Nat. Tech. Bengal) Ned. Indie, vol. 3, p. 690, 1852 (Wahai, Ceram); vol. 13, p. 56, 1857 (Kajeli, Buru); Act. Soc. Sci. Ind. Neerl. (Nicht. Sumatra), vol. 8, p. 41, Feb. Aug. 1859 (Telokbetong).

— Günther, Cat. Fish. Brit. Mus., vol. 3, p. 21, 1861 (Ceylon; Madras; Calcutta; Bengal; Pinang; Siam. Amboyna; Cerang; Borneo; Philippines; China; East) Indies; Type of Gobius platycephalus)

— Peters, Monatsb. Akad. Wiss. Berlin, p. 263, 1868 (Luzon; Leyte); — Martens, Preuss. Exped. Ost Asien, vol. 1, p. 391, 1876 (Singapore).

(Naturw. Reise Mossambique), Zool., p. 20, ~~pl. 3 figs~~ 1868 (R. Zambezi and Licuare 17° to 18° S. lat.; Ganges; Goa; Hongkong; Philippines).

— Day, Fishes of India, pt. 2, p. 294, pl. 64, fig. 1, 1876.

— Macleay, Proc. Linn. Soc. New South Wales, vol. 2, pt. 4, p. 356, 1878 (Port Darwin).

— Gogorza, Anal. Soc. Españ. Hist. Nat. Madrid, vol. 17, p. 292, 1888 (Filipinas; Bulacán; Manila Bay; Cebu; Samar). — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 164, 1881 (1882) (Serangoon). — Meyer, An. Soc. Espan. Hist. Nat. Madrid, vol. 14, p. 29, 1885 (Manado, Celebes; Laguna de Bay, Luzon). — Day, Fauna British India, Fishes, vol. 2, pp. 266, 1889 (Cotypes). — Boulenger, Ann. Mag. Nat. Hist. London, ser. 6, vol. 15, p. 185, 1895 (Palawan). — Rutter, Proc. Acad. Nat. Sci. Philadelphia, p. 85, 1897 (Swatow). — Duncker, Mitteil. Nat. Mus. Hamburg, vol. 21, p. 160, 1903 (1904) (Pahang R.). — Boulenger, Cat. Fresh Water Fish. Africa, vol. 4, p. 24, fig. 15, 1916 (Zanzibar; Rovuma R.; Durban; Port Elizabeth; Madagascar). — Weber, Nova Guinea, vol. 5, pt. 2, p. 260, 1908 (Moso; Mamapiri; Tawarin R.; Klipang R.; Sentani R. Lake, north New Guinea; Wagani, south New Guinea); vol. 9, pt. 4, p. 600, 1913 (Lorentz R.; Vermowai R.; Lake Sentani). — Regan, Proc. Zool. Soc. London, vol. 20, pt. 6, p. 276, 1914 (Ettikwa R., north New Guinea). — Weber and Beaufort, Fauna Caledonia, Fauna and Roux, Zool.; vol. 2, pt. 1, p. 37, 1915 (Bondé; Tchalabel; La Foa).

— Seale, Philippine Journ. Sci., vol. 9, no. 1, p. 75, 1914 (Hong Kong).

— Gilchrist and Thompson, Ann. Durban Mus., vol. 1, pt. 4, p. 402, 1917 (reference).
— Thompson, Marine Biol. Rep. South Africa, vol. 4, p. 129, 1918 (reference).

— Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 77, p. 262, 1925 (Umhlatuzi R., Zululand). — Deraniyagala, Ceylon Adm. Rep., p. F18, 1926 (reference).

Gobius giuris Kreyenberg and Pappenheim, Abhandl. Ber. Mus. Magdeburg, vol. 2, pt. 1, p. 23, 1909 (Hamburg).

Gobius (Glossogobius) giuris Barnard, Ann. South African Mus., vol. 21, pt. 2, p. 18[illegible], Oct. 1927 (Algoa Bay; Natal; Zululand; East Africa; Kabi R. Game Preserve).
Rendahl, Arkiv för Zool., Stockholm, vol. 16, no. 2, p. 18, 1924 (reference).
Weber, Siboga Exped., vol. 57, Fische, p. 468; fig. 93, 1913 (Macassar; Bleo).

1403

Glossogobius giuris Streets, Bull. U.S. Nat. Mus., no. 7, p. 60, 1877 (Oahu). — Bleeker, Verh. Akad. Wet. Amsterdam, vol. 18, no. 5, p. 3, 1877 (China). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, p. 515, Aug. 16, 1905 (Baram, Borneo). — Evermann and Seale, Bull. Bur. Fisher., vol. 26, p. 104, 1906 (1907) (Bacon; Van Fabian; Bulan). — Smith and Seale, Proc. Biol. Soc. Washington, vol. 19, p. 79, 1906 (Mindanao). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, p. 277, 1908 (Mindoro; Aparri; Iloilo); Philippine Journ. Sci., p. 48, 1910 (reference). — Duncker, Mitt. Nat. Mus. Hamburg, vol. 29, ~~1911~~, p. 251, 1911 (Hunupitiya, Kalaniya, Maharagama; Nivara Ava; Polonnaruwa, Ceylon). — Seale, Philippine Journ. Sci., vol. 9, p. 75, 1914 (Hong Kong). — Fowler, Copeia, no. 58, p. 65, 1917 (Philippines). — McCulloch and Ogilby, Rec. Aust. Mus., vol. 12, no. 10, July 14, 1919, p. 236 (Richmond; Normanby; Port Darwin). — Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 75, p. 43, 1923 (Madagascar). — Fowler and Ball, Bull. Bishop Mus., no. 26, p. 27, 1925 (Wake Island). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 71, art. 10, p. 11, 1927 (Benkoelen, Sumatra; Batavia, Java).

— Reeves, Journ. Pan-Pac. Res. Inst., vol. 2, no. 3, p. 13, July-Sep. 1927 (reference).
— McCulloch, Austral. Mus. Mem., no. 5, pt. 3, p. 373, Nov. 28, 1929 (reference).
— Fowler, Mem. Bishop Mus., vol. 10, p. 402, 1928 (Wake Island). Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 84, 1934 (Den Pasir, Bali), p. 159 (Banghob), p. 351 (Ban Thung Luang, Southwest Siam); vol. 86, p. 496, 1934 (Blue Lagoon and Ivongo R., Natal); vol. 87, p. 160, 1935 (Bangkok; Pakanam; Keng Kob), p. 404 (Ivongo R., Natal); vol. 89, p. 252, 1937 (Bangkok; Pakanam; Jachin); List Malaya Fish., p. 215, 1937 (Malaya).
— Kamohara, Zool. Mededel. Rijks Mus. Nat. Hist. Leiden, p. 4, 5, 1935 (description).
— Chu, Biol. Bull. St. John's Univ., no. 1, p. 161, Jan. 1936 (reference). — Fowler, Acad. Nat. Sci. Philadelphia, vol. 86, p. 84, 1934 (Den Pasir, Bali), p. 159 (Banghob), p. 351 (Ban Thung Luang, Southwest Siam); vol. 86, p. 496, 1934 (Blue Lagoon and Ivongo R., Natal); vol. 87, p. 160, 1935 (Bangkok; Pakanam; Keng Kob), p. 404 (Ivongo R., Natal); vol. 89, p. 252, 1937 (Bangkok; Pakanam; Jachin); List Malaya Fish., p. 215, 1937 (Malaya).
— Suvatti, Index Fish. Siam, p. 153, 1936 (Maenam Cao Phaya; Rachaburi; Ban Phaen; Canthaburi R.; Pak Phayun; Bangpin; Pattani; Ban Taeng; Songkhla; Thale Sap; Ladm Ying; Pakham Wen). — Fowler, op. cit.,

Glossogobius giuris Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 79, p. 291, 1927 (Santa Maria; Orani; San Fabian, Philippines) (error).

Glossogobius giuris Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 88, fig. 36, 1936 (Tainan, Formosa; Philippines).

— Herre, Field Mus. Public. no. 353, Zool. ser. vol. 21, p. 458, April 15, 1936 (Koraga, New Guinea).

McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference)

1405

Glossogobius giuris Herre, Gobies of Philippines, p. 161, pl. 27, fig. 1, 1927 (Bugney; Tuguegarao; Barrio La Paz; Abra R.; Santa Maria; Lingayen Gulf; Agno R.; Angat R., Balinag; Calumpang R.; Callumpit; Balacan province; Sibul Springs; Malabon; Manila; Pasig R.; Mayondon; Balanak R.; Buntbal R.; Talisay; Lake Taal; Pansipit R.; San Miguel Bay; Bicol R.; Lake Buhi; Legaspi; Pulu; Baco; Mamboc R.; Budbudan R.; Mambugan swamp; Dumarao; Dumangas; Villa; Iloilo; Navalas; Concepcion; Taytay; Balabac; Dumaguete R.; Lazi; Laguitan R.; Malabang Spring; Agusan R.; Lake Bulutan; Dadao; Hong Kong; Ganges R.; Bengal); Fisher 1931

Herre, Philippine Exped., p. 83, 1934 (Banang Sur; Manila; Laguna de Bay; Molawin brook; Majayjay; Lasuguba; Lake Bambon; Lake Danjan; Culion; Dumaguete). — Rojas and Martin, dep. Agric. Comm. Manila, Techn. Bull. 6, p. 230, 1937 (reference).

— Herre and Myers, Lingnan Sci. Journ., vol. 10, no. 2 to 3, p. 253, Aug. 1931 (Canton). — Herre,

Gobius guttum Buchanan-Hamilton, Fishes of Ganges, p. 50, 1822 (type locality, Lower parts of the Padda or Padma River).

Gobius lobius Valenciennes, Hist. Nat. Poiss., vol. 12, p. (52) 68, 1837 (type locality, Mauritius; Malabar; Pondicherry). — Jacquemont, Voyage dans l'Inde, Poiss., pl. 14, fig. 3, 1835 (). — Jerdon, Madras Journ. Lit. Sci., vol. 15, p. 148, 1848 (southern India). — Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, pt. 5, p. 24, 1849 (Batavia; Tegal; Pekalongan; Samarang; Tjilatjap; Patjitan; Surabaya; Pasuruhan; Kammal; Bangkalang; Sumanap, Java). — Cantor, Journ. Asiatic Soc. Bengal (Cat. Malay. Fish.), vol. 18, pt. 2, p. 1162, 1849 (1850) (Penang).

~~Gobius Kobius Bleeker~~

Gobius Kolsius Bleeker, Gerh. Batavia. Genoot. (Madura), vol. 22, p. 3, 1849 (the locality, Bangcalang; Kammal; Sumanap); hat. Tijdl. Ned. Indie, vol. 1, p. 260, 1850 (Bandjermassing); vol. 2, p. 193, 1851 (Bandjermassing), p. 416 (Sambas); vol. 3, p. 408, 1852 (Pontianak), p. 409 (Bandjermassing), p. 445 (Banka); vol. 5, p. 154, 1853 (Macassar); vol. 7, p. 227, 1854 (Macassar), p. 313 (Bantem, Perdana); vol. 8, p. 152, 1855 (Bandjermassing); vol. 9, p. 392, 1855 (Gambong R., Pasuruan, Java), p. 394 (Gemplol R., Java), p. 417 (Pontianak), p. 418 (Bandjermassing); vol. 11, p. 419, 1856 (Muntok, Banka); Act. Soc. Sci. Ind. Neerl., vol. 1, no. 3, p. 9, 1856 (Macassar); vol. 1, no. 5,

f. 75, 1856 (Amboina); vol. 2, no. 6, f. 3, 1857 (Kahajan, Borneo); vol. 2, no. 7, f. 6, 1857 (Amboina); Nat. Tijds. Ned. Indie, vol. 13, f. 56, 1857 (Kajeli, Buru); Act. Soc. Sci. Ind. Neerl., vol. 3, no. 9, f. 2, 1857-58 (Padang, Sumatra), f. 4 (Gruttan), f. 6 (Palembang); Nat. Tijds. Ned. Indie, vol. 16, f. 408, 1858 (Japara, Java), f. 434 (Linkawang); vol. 18, f. 361, 1859 (Blinju, Banka); vol. 20, f. 219, 1859-60 (Tandjon), f. 238 (Singapore), f. 449 (Singapore); vol. 21, f. 128, 1868 (Muntok, Banka); vol. 22, f. 113, 1860 (Buru), f. 239 (Bali); Ned. Tijds. Dierk., vol. 2, f. 34, 1865 (Siam).

vol. 5, no. 6, f. 3, 1858-59 (Palembang); vol. 5, no. 8, f. 2, 1858-59 (Tobl. artii, Celebes); vol. 8 (Sumatra), f. 14, 1859 (Tandjong); (Archt. Sumatra) vol. 8, f. 41, Feb.-Aug. 1859 (Sumatra).

1409

Glossogobius bokius Hora, Journ. Asiatic Soc. Bengal, vol. 6, p. 493, 1924 (Singgora, Gale Gap, Siam). — Suvatti, Index Fish. Siam, p. 154, 1936 (reference).

to 2 1/2; A. I, 7, I, fifth ray 2 2/5 to 2 4/5; caudal 1 1/5; pectoral 1 1/2 to 1 3/5; ventral 1 1/2 to 1 3/5.

Pale olive brown above, white below. Each row of lateral scales with dark median line. Side with row of 5 large, dark brown spots, all much larger than eye. dorsals, caudal and pectoral with dark spots, on caudal formed as 7 transverse dusky gray bands.

1410

Glossogobius celebius (Valenciennes)

Gobius celebius Valenciennes, Hist. Nat. Poiss., vol. 12, p. (56) 74, 1837 (type locality, Fresh water of Celebes). — Bleeker, Nat. Tijds. Ned. Indie, vol. 8, p. 318, 18; vol. 13, p. 56, 1857 (Kajeli, Buru); Act. Soc. Sci. Ind. Neêrl. (Sichtg. Sumatra) vol. 8, p. 41, Feb.-Aug. 1859 (Sumatra). — Weber, Nova Guinea, vol. 9, pt. 4, p. 600, 1913 (Lorentz River; Inbai River; Salzquelle; Nembowai River). — Regan, Trans. Zool. Soc. London, vol. 20, pt. 6, p. 276, 1914 (Mimika River, New Guinea).

Gobius celebicus Bleeker, Nat. Tijds. Ned. Indie, vol. 7, p. (313) 318, 1854 (Batavia; Patjitan; Anjer; Tjirunguna; Purworedjo; Tellobelleng; Padang; Telaban); vol. 13, p. 476, 1857 (Tjebala, Java).

1411

Gobius (Glossogobius) celebius Weber,
Siboga Exped., Mol. 57, Fische, p. 468,
fig. 94, 1913 (Macassar).

1412

Glossogobius celebius Herre, Gobies of Philippines, p. 158, pl. 12, fig. 4, 1927 (Mission; Laoag R.; Pinacanauan R.; Dupax; Santa Fe; Baguio; Bangar; Buang Sur; Gulf of Lingayan; Agno R.; Gumay R.; Banaban R.; Kalingay brook; Pinagsangkan R.; Angat R.; Ibo Creek; Talanga Creek; Sibul Springs; Calumpang R.; Santa Ines R.; Irig R.; Maribina R.; Imang R.; Malabon; Mayondon; Molowin Creek; Balanak R.; Lamul; Lake Taal; Lucban; Talakop Creek; Bacon; Polillo; Mambac R.; San Jose; Capiz; Dumangas; Zarraga; Concepcion; Dumaguete R.; Siquijor; Caquitan R.; Kolambugan; Rio Grande de Mindanao; Davao; Taytay; Balabac). — Fowler, Mem. Bishop Mus., vol. 10, p. 402, 1928 (compiled). — Herre, Fisher Herre 1931 Philippine Exped., p. 83, 1934 (Buang Sur; Santa Fe; Laguna de Bay; Molanao brook; Lake Bombon; Tobaco; Magallanes; Busuanga; Culion; Zamboanga; Cotabato; Fort Pilar; Jolo); Field Mus. Public. No. 353, Zool. Ser. vol. 21, p. 458, April 15, 1936 (Tawi Tawi; Amboat). — Rojas and Martin, Dep. Agric. Comm. Manila, Tech. Bull. 6, p. 23d, 1937 (reference).

1427

Depth 4 3/4 to ~~3~~ 7 1/2; head 2 3/4 to ~~2 7/8~~ 3 1/4, width 1 ~~2/3~~ to 2 1/5. Snout ~~3 1/10~~ 2 3/5 to 3 1/4 in head from snout tip; eye 3 3/5 to ~~3~~ 7, equals snout in young to ~~2 1/2~~ 1/5 in snout with age, greatly exceeds narrow interorbital; maxillary reaches to front of eye ~~5~~ to 1/3 in eye, length ~~of~~ 3 1/4 to 2 1/3 in head from snout tip; teeth in villiform band in each jaw, inner upper depressible, and outer row in each jaw little enlarged, conic, strong, erecta; no teeth on palate; free front end of tongue with median notch; interorbital 4 4/5 to ~~3 4~~ 4 to 9, low, concave. Gill rakers I + 8 or 9, strong, lanceolate, 2 in gill filaments, which 2 in eye.

Scales 30 or 31 + 2 to 4 in axial lateral series; 9 to 12 transversely above anal origin, 14 ~~or 15~~ to 19 predorsal forward nearly to or opposite hind eye edge. Head

Gobius russelii Valenciennes, Hist. Nat. Poiss., vol. 12, p. 75[56], 1837 (type locality, Pondicherry). — Bleeker, Verh. Batavia. Genoot. (Kal. Sch. Bengal), vol. 25, p. 50, 1853 (reference).

Gobius catebus Valenciennes, op. cit., p. 76[57] (type locality, Rangoon; Pondicherry; Bengal; Malabar).

Gobius kora Valenciennes, op. cit., p. 77[58] (type locality, Coromandel).

Gobius unicolor (part) (Kuhl and Van Hasselt) Valenciennes, op. cit., p. ( )88 (Java).

depth 5 3/5 to 5 2/3; head 3 1/5 to 3 1/4, width 1 2/3 to 1 4/5. Snout 2 3/5 to 3 in head from snout tip; eye 7, 2 2/5 to 2 1/2 in snout; maxillary 2 1/4 to 2 1/3 in head, reaches opposite front eye edge or to front pupil edge; teeth biserial, large, canil, outer fewer, wider spaced and much larger; interorbital width 4 4/5 to 5 in head, bony width 2/3 of eye. Gill rakers 1+8, short. Scales 31 to 33 in axial lateral series to caudal base and 3 or 4 more on latter; 12 transversely above anal origin, 19 predorsal. Head scaleless except occiput. Small scales on caudal base.

D. VI–9, I, second spine 2 to 2 1/10 in head, first ray 2 1/8

1414

Gobius kurpah Sykes, ~~Trans~~ Proc. Zool. Soc. London, vol. ~~2~~ 6, p. ~~352~~ 158, ~~pl. 61, fig. 1~~ 1838 (type locality, Deccan); Trans. Zool. Soc. London, vol. 2, p. 352, pl. 61, fig. 1, 1841 (type).

r.² Preopercle with large strong spine directed back. Gladiogobius

q.v.² Scales smaller, 50 to 100 or more.

1415

Glossogobius brunneus (Schlegel)

Gobius brunneus Schlegel, Fauna Japonica, Poiss., pt. 7-9, p. 142, pl. 74, fig. 2, 1845 (type locality, mouths of rivers flowing into the Bay of Nagasaki). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 65, 1861 (copied).

— Martens, Preuss. Exped. Ost Asien, vol. 1, p. 392, 1876 (Yokohama). — Ishikawa and Matsubara; Prelim. Cat. Fish. Inus. Tokyo, p. 39, 1897.

— Chu, Biol. Bull. St. John's Univ., no. 1, p. 161, Jan. 1931 (reference).

Chaenogobius brunneus Jordan and Snyder, Annot. Zool. Japan., vol. 3, p. 112, 1901 (Nagasaki).

Glossogobius brunneus Reeves, Journ. Pan-Pac. Res. Inst., vol. 2, no. 3, p. 13, July-Sep. 1927 (reference).

Jordan and Richardson, Mem. Carnegie Inst., vol. 4, no. 4, p. 200, Aug. 28, 1909 (Kotosho. Keerun reference).

Jordan and Evermann, Proc. U. S. Nat. Inst., vol. 25, 1902, p. 367. (Kotosho and Keerun, Formosa; Nagasaki).

Glossogobius guris brunneus Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 88, fig. 35, 1936 (Kimidu south to Kawanabe; Yainan, Formosa; Hainan, China).

Jordan and Snyder, Proc. U. S. Nat. Inst., vol. 24, p. 74, 1901 (Hakodate; Nonomichi; Kurume; Nagasaki; Wakanoura).

Gobius olivaceus Schlegel, Fauna Japonica, Poiss., fts. 7-9, p. 142, pl. 74, fig. 3, 1845 (type locality, Japan).

— Martens, Preuss. Exped. Ost Asien, vol. 1, p. 391, 1876 (Yokohama. — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 164, 1881 (1882) (Hirado).

Gobius fasciato-punctatus Richardson, Voy. Sulphur, Ichth., p. 145, pl. 62, figs. 13-14, 1844 (type locality, Canton); Ichth. China and Japan, p. 204, 1846 (Canton, Whampoa).

jaw. Tongue rounded, nearly
entirely adnate to mouth floor.
Bony interorbital less than
eye diameter. Nostrils not
tubular. Gill openings long as
base width of pectoral fin,
isthmus broad. Inner edge
of shoulder girdle without
fleshy flaps. Scales 40 to 60 in
axial lateral series, deciduous,
cycloid. Head scaled above
after eyes, laterally scaled from
under eye, on preopercle and
cheek. Dorsal fins close together,

1418

Gobius platycephalus Richardson, Ichth. China and Japan, p. 204, 1846 (type locality, Macao). — Peters, Monatsb. Akad. Wiss. Berlin, p. 681, 1852; Mauru. Reise Mossambique, Zool., pl. 3, figs. 2a-b, 1868.
Rhinogobius platycephalus Jordan and Seale, Proc. U. S. Nat. Mus., vol. 29, p. 527, 1906 (Shanghai).

Gobius fusiformis Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 30, 1849 (type locality, Patjitan and Bogowonto River at Purwordjé, Java).

first with 6 spines, second with
23 or 24 rays. Anal rays 22 or
23. Caudal pointed. Pektoral
with 14 rays, base scaly.

1419

Gobius phaiopiloma Bleeker

Gobius phaiopiloma Bleeker, Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 30, 1849 (type locality, Pasuruan, East Java; Sumanap, Madura); (Madura) vol. 22, p. 16, 1849 (Madura); (Middl. Oost-Java) vol. 23, p. 9, 1850. — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 31, 1861 (~~refer~~ copied).

Gobius phaioroma Bleeker, Nat. Tijds. Ned. Indie, vol. 6, p. 517, 1854 (~~Sumatra~~ Delaban, West Sumatra. Verh. Batavia. Genoot. (Blenn. Gob.), vol. 22, p. 30, 1849 (type locality, ~~Patjitan and Bogowonto River at Purworedjo, Java~~ Batavia, Java).

Analysis of Species

a. Chaenophorus. Sides of body with 8 to 12 dark brown to blackish cross bars; black blotch below eye:

b. Depth 4 to 5.

c. Ten or 12 narrow dark cross bars. genivittatus

c.2 Eight to 10 broad, crescentic dark cross bars. lachrymosus

b.2 Depth 6; side with 7 or 8 short vertical cross bars. beauforti

a. Awaous. No dark cross bars on side; back and upper surfaces with irregular dark spots; 2 dark lines forward from eye to front of mouth. ocellaris

Gobius spectabilis Günther, Cat. Fish. Brit. Mus., vol. 3, p. 45, 1861 (type locality, India). — Károli, Termesz. Füzetek, Budapest, vol. 5, p. 165, 1881 (Singapore), — Meyer, An. Soc. Espan. Hist. Nat. Madrid, vol. 14, p. 29, 1885 (Cebu). — Weber, Zool. Jahrb. Syst., vol. 10, p. 144, 1897 (South Africa); Siboga Exped., vol. 57, Fische, p. 468, 1913 (note). — Gilchrist and Thompson, Ann. Durban Mus., vol. 1, pt. 4, p. 403, 1917 (reference). (1882)

Gobius fasciatus Steindachner, Sitzb. Ber. Akad. Wiss. Wien, vol. 55, pt. 1, p. 715, 1867 (type locality, Philippines).

1422

Gobius obscuripinnis Peters, Monatsber. Akad. Wiss. Berlin, p. 263, 1868 (type locality, Bicol River, Albay Province, Philippine Islands).

Glossogobius obscuripinnis Jordan and Richardson, Philippine Journ. Sci., p. 49, 1910 (reference).

Glossogobius giuris var. obscuripinnis Herre, Gobies of Philippines, p. 164, 1927 (Lake Buhi; Lake Bato).

Olive brown or green above, metallic bronzy or golden on sides, white beneath. More or less distinct dark brown or black spots or markings above. Two dark oblique lines directed forwards from eye to mouth. Second dorsal with numerous small blackish spots. Caudal with transverse series of black spots, which may form confluent irregular cross bars.

Length 160 to 250 mm.

Gobius davidi Sauvage and de Thiersant, Ann. Sci. Nat., ser. 6, vol. 1, Zool., art. 5, p. 3, 1874 (type locality, Ning Po). — Kreyenberg and Pappenheim, Abhandl. Ber. Mus. Magdeburg, vol. 2, pt. 1, p. 23, 1909 (Pingtshiang).

Rhinogobius davidi Reeves, Journ. Pan-Pac. Res. Inst., vol. 2, no. 3, p. 13, July-Sep. 1927 (reference). — Chu, Biol. Bull. St. John's Univ., no. 1, p. 162, Jan. 1931 (reference).

Gobius sauvoides Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, p. 48, 1878 (type locality, Norman River, Gulf of Carpentaria). — Waite, Rec. Austral. Mus., vol. 8, p. 267, 1911 (reference).

Gobius circumspectus Macleay, Proc. Linn. Soc. New South Wales, vol. 8, p. 267, 1883 (type locality, Milne Bay in fresh water, New Guinea). — McCulloch and Ogilby, Rec. Austral. Mus., vol. 12, no. 10, p. 235, July 14, 1919 (type).

Rhinogobius circumspectus Jordan and Seale, Bull. Bur. Fish., vol. 25, p. 400, 1905 (reference).

(Glossogobius circumspectus Fowler), Mem. Bishop Mus., vol. 11, no. 6, p. 442, 1934 (type). — Suvatti, Index Fish. Siam, p. 153, 1936 (reference).

1424

Eleotris laticeps de Vis, Proc. Linn. Soc. New South Wales, vol. 9, pt. 3, p. 692, 1884 (type locality, Queensland Coast).

? Gobius concavifrons Ramsay and Ogilby, Proc. Linn. Soc. New South Wales, ser. 2, vol. 1, p. 12, (1887) (type locality, Strickland River, 1886, New Guinea). — Ramsay and Ogilby, Rec. Austral. Mus., vol. 12, no. 10, p. 235, July 14, 1919, p. 234 (note). — Fowler, Mem. Bishop Mus., vol. 10, p. 404, 1928 (copied).

depth 5 to 6; head 3 2/5 to 3 4/5, width 1 1/2 to 2. Snout 2 1/4 to 3 in head; eye 4 (young) to 7, 2 1/2 in snout, 1 to 1 1/2 (young) in interorbital; maxillary reaches 4/5 to or to eye, length 2 3/4 in head; mouth subinferior; teeth in narrow villiform bands; upper profile of head convex, with interorbital low.

Scales 58 to 64 in lateral series; 16 to 18 transversely between dorsal and anal. Scales strongly ciliated.

D. VI— I, 10, second spine 2 in head, second ray 2, rather widely separated; A. I, 10, third ray 2 2/5; caudal rounded, shorter than head; least depth of caudal peduncle 2 1/3 to 2 1/2 in head; pectoral 1 1/3 to 1 1/2, rays 16; ventral rays I, 5, fin 1 1/2 in head, with broad basal membrane, reach 1 3/4 to vent.

1425

Glossogobius concavifrons Fowler,
Mem. Bishop Mus., vol. 11, no. 6, p. 443,
1934 (type).

Gobius concavifrons

Glossogobius koragensis Herre, Field Mus. Publ., No. 12, Zool. ser. vol. 18, p. 419, 1935 (type locality, Koragau, Upee River, and Ambolt, Karadme River, New Guinea); No. 353, Zool. ser. vol. 21, p. 459, April 15, 1936 (types).

Glossogobius tingarevae Fowler, Bull. Bishop Mus., No. 38, p. 27, 1927 (type locality, Tingareva Island); Mem. Bishop Mus., vol. 10, p. 402, fig. 62, 1928 (types).

1426

Glossogobius teniiformis Fowler

Glossogobius teniiformis Fowler, Proc. Acad. Nat. Sci. Phila., vol. 86, p. 496, fig. 49, 1934 (type locality, St. Lucia Lake, 20 miles up, north Zululand).

excepting few scales on opercle above, and occiput, naked. Small scales on chest, breast, prepectoral region, and caudal base small. Scales with 30 to 32 basal radiating striae; 85 to 87. close set, slender, uniserial, apical denticles; circuli fine, obsolete apically.

Lower half of cheek with 4 or 5 horizontal, parallel, close set lines of fine papillae; row over eye and back over preopercular to suprascapula, another on interorbital space and two vertically on opercle.

D. VI - I, 8, I or I, 9, I, second spine 2 to 2 1/5 in head, second branched ray 1 7/8 to 2 1/5 in length; A. I, 7, I or I, 8, I, 2 1/5 to 3 2/5; third branched ray rounded with median rays much longest; least depth of caudal peduncle 3 1/5 to 3 2/3; pectoral 1 1/3 to 1 1/2, rays 19 or 20; ventral rays I, 5, with broad front membrane, fin length 1 1/3 to 1 4/5 in total head length. Anal papilla flattened, fleshy flap, 1/2 eye in length.

Warm brown or umber above, becoming whitish on lower sides and under surfaces. An back 4 large darker brown saddle like blotches, one predorsal, one below first dorsal and two below second dorsal. Whole back also more or less mottled with paler or darker, or both. Along middle of side five large blackish brown blotches axially. Iris dark gray brown. Blackish brown bar forward from eye to middle of maxillary. Cheek and side of head mottled or blotched with blackish brown. Dorsals, caudal and pectoral grayish, rays and spines with brown spots. Pectoral with 2 large dark brown blotches basally, one above other. Ventrals and anal whitish.

East Africa, Zanzibar, Natal,
South Africa, Madagascar, Zululand
Mauritius, India, Ceylon, Burma,
Malaya, Siam, East Indies,
Philippines, China, Formosa, Japan,
Northern Territory, Queensland,
Micronesia, Polynesia.

hh.' First predorsal scale not enlarged; D. VI— 11 to 13; A. 11 to 13. Stenogobius

hh.² First predorsal scale enlarged behind eyes; D. VI—7 to 9; A. 7 to 9. Stigmatogobius

gg.² Lips very thick; snout well over ² eye diameters. Awaous

ii.² Tongue well notched in front.

ii.' Scales 25 to 40; lower jaw well protruded in front. Glossogobius

ii.² Scales 70 to 100.

jj. Pectoral without free rays; pair of pores in interocular posteriorly. Chaenogobius

jj. Upper pectoral rays detached; no interocular pores. Chasmichthys

kk.² Dorsal spines 8 or more.

lll.' Pectoral rays confluent; front edge of ventral sucker fringed. Acanthogobius

ll.² Upper pectoral rays detached, front edge of ventral sucker entire. Pterogobius

l.² Caudal lanceolate, greatly extended; maxillary long, often prolonged well behind eye. Waitea

1491-

A handsome goby, the mammal Glossogobius celebius formerly admitted but not distinguished from Glossogobius giuris by its much larger predorsal scales. Many of my specimens are greatly contrasted in color pattern with the usual dark brown blotches nearly or quite black. Though highly variable in coloration most all my specimens show the dark preocular bar to the maxillary rather broad, also the two dark blotches on the pectoral base very distinct, besides usually a black spot on the gill cover at its upper junction with the head. Often between the lines of papillae on the cheeks are 4 or 5 dark brown lines. Often the scales along the backs and sides may carry brown lines or streaks which may be variably complete, or even connect the dark axial lateral blotches.

1432

Six examples. Batangas River, Batangas, Luzon. June 7, 1908. Length 32 to 56 mm.

One example. Cebu market, Cebu. March 28, 1909. Length 50 mm.

One example. Manila Bay, Luzon. December 12, 1909. Length 44 mm. Faded coloration.

One example. Bacoa, Luzon. June 15, 1908. Length 77 mm. Predorsal scales 14.

Two examples. Basud River, fresh water, Luzon. January 15, 1909. Length 108 and 109 mm. Predorsal scales 14 or 15.

Six examples. Buena Vista, Guimaras Island. January 14, 1909. Length 65 to 108 mm.

One example. Cabugao River, Catanduanes Island. June 9, 1909. Length 94 mm.

One example. Iwahig River and tributaries, Puerta Princesa, Palawan. April 4, 1909. Length 107 mm. Predorsal scales 15.

4539 metal. Laguna, Manila. December 20, 1907. Length 145 mm.

12301. Maagnas Stream, Lagonay Gulf, Luzon. June 17, 1909. Length 83 to 107 mm. Predorsal scales 13 or 14.

Four examples.

One example. Malampaya River, beyond tide water, Paldjuan. December 26, 1908. Length 96 mm. Predorsal scales 17.

20257. Malinao River, Mantaquin Bay, Palawan. April 2, 1909. Length 38 to 129 mm. Predorsal scales 15. Three examples.

5895, 19656. Malaga River, Humangan Bay, Leyte. July 30, 1909. Predorsal scales 14 to 16. Larger example differs greatly from 20257, 18131, 21213, in its more swollen head and lack of lower dark band from lower hind eye edge back across cheek. Also soft vertical fins more profusely marked with small dark spots. Length 117 to 132 mm.

One example. Malugas River, Malawgo, brackish water, Mindoro. December 11, 1908. Length 53 mm. Predorsal 13.

5-197. Manila market, Luzon. June 11, 1908. Length 36 to 96 mm. Two examples. Predorsal scales 19.

Seven examples. Manigrina River at Nava. January 1, 1908. Length 24 to 60 mm.

Seven examples. Nato River. June 17, 1909. Length 42 to 67 mm.

1435

One example. Nato River.
June 17, 1909. Length 34 mm.

One example. Iloilo River, tidewater. June 18, 1909. Length 97 mm. Predorsal scales 16.

One example. Iponucan River, Camp Overton, Mindanao. August 6, 1909. Length 82 mm. Preddrsal scales 18.

One example. Pancol, Malampaya Island, Palawan. December 25, 1908. Length 83 mm.

Two examples. Pasacao River, Luzon. March 9, 1909. Length 55 to 93 mm. Predorsal scales 14 to 17.

One example. Philippines. Length 87 mm.

One example. Port Dupon, brackish river. March 17, 1909. Length 67 mm. Predorsal scales 15.

Two examples. Pucot River, Manveles. January 29, 1909. Length 47 to 66 mm.

4983. Ragay River, fresh water, Luzon. March 10, 1909. Length 42 mm. Predorsal scales 15.

Twenty-five examples. Ragay River, Ragay Gulf. March 10, 1909. Length 24 to 134 mm.

1437

Thirty examples. Pangauron River, Port Caltom, Busuanga Island. December 16, 1908. Length 57 to 68 mm.

Eighty-three. Santa Cruz River, Laguna de Bay. December 17, 1907. Length 27 to 92 mm. Predorsal scales 13 or 14.

One example. Santiago River, Pagapas Bay, Luzon. February 20, 1909. Length 63 mm.

19633. Tayabas River, near mouth. February 25, 1909. Length 92 mm. Predorsal scales 14.

One example. Tulic River, Majoggjay, Laguna. December 20, 1907. Length 133 mm.

One example. Yawa River, Legaspi. June 7, 1909. Length 116 mm.

One example. Goui River, Tayabas. February 25, 1909. Length 103 mm. Predorsal scales 16.

18131. Aboina Stream, Amboina, Dutch East Indies. December 5, 1909. Length 170 mm. Predorsal scales 17. Oblique dark postocular band across cheek.

21213. Ilsi River, Boero Island. December 9, 1909. Length 138 mm. Predorsal scales 16. Oblique dark band across cheek.

1439

Two examples. Malampaya River, Palawan. December 26, 1908. Length 80 to 122 mm.

5565. Malatagao, Cannia River, Puerta Princesa, Palawan. April 4, 1909. Length 143 mm.

17946. Mananga River, Cebu. August 25, 1909. Length 130 mm.

Seven examples. Manila market, Luzon. December 12, 1907. Length 122 to 158 mm.

11882 to 11884. Manila market. March 14, 1908. Length 108 to 112.

11593 and 11594. Manila market. March 16, 1908. Length 152 to 153 mm.

22471. Manila market. May 2, 1908. Length 163 mm.

17933 to 17935. Manila market. June 13, 1908. Length 172 to 208 mm.

20175. Marivales, Pucot River. January 29, 1909. Length 100 mm.

Fifty-seven examples. Hanjan River, Mindoro. June 5, 1908. Length 27 to 118 mm.

Three examples. Hato River, tidewater. June 17, 1909. Length 56 to 73 mm.

1440

One example. Paluan River, Mindoro. December 11, 1908. Length 67 mm.

7180. Panguron River, Port Caltem. December 16, 1908. Length 250 mm.

Three examples. Parisipit River. December 27, 1907. Length 99 to 102 mm.

6734 metal. Parsi, Iloilo. January 14, 1909. Length 180 mm.

Two examples. Putot River, back water ponds, Mariaveles. January 30, 1909. Length 74 to 143 mm.

8540 to 8542. San Fernando, Union Province, Luzon. March 17, 1908. Length 95 to 190 mm.

Five examples. Santa Cruz River, Laguna. December 17, 1907. Length 98 to 143 mm.

9548, 9552 to 9555, 22885. Santiago River, Pagapas Bay, Luzon. February 20, 1909. Length 110 to 212 mm.

Five examples. Tayabas River, near mouth, Luzon. February 25, 1909. Length 95 to 190 mm.

Eighteen examples. Zamboanga River. October 9, 1909. Length 99 to 233 mm.

Four examples. Amilao River, Pasi, Iloilo. January 13, 1909. Length 58 to 132 mm.

22037. Basud River, ~~freshwater~~, Luzon. June 15, 1909. Length 136 mm.

Eight examples. Basud River, freshwater. January 15, 1909. Length 102 to 162 mm.

20063. Batangas, Luzon. June 7, 1908. Length 158 mm.

13393 to 13400. Bito Lake, Abuyog, Leyte. July 26, 1909. Length 63 to 227 mm. Eighty-six examples.

4952. Iloilo market, Panay. March 29, 1908. Length 224 mm.

6113 metal. Iloilo market. June 4, 1908. Length 293 mm.

7048, 7050. Lake Taal, east side of island. December 27, 1907. Length 145 to 240 mm.

9570, 17209. Mahinog River, Camiguin Island. August 3, 1909. Length 185 to 223 mm.

19657. Malaga River, Hinunangan Bay, Leyte. July 30, 1909. Length 149 mm.

1441

One example. Zamboanga canal. Veine. October 8, 1909. Length 64 mm.

17963. Apra Bay, Guam. November 19 to 21, 1907. Length 170 mm.

18130. Amboina Stream, Amboina, Dutch East Indies. December 5, 1909. Length 173 mm.

9797 to 9799. Gorontalo, Celebes. November 15, 1909. Length 137 to 146 mm.

U. S. N. M., no. 38794. Tokyo, Japan. Department of Education of Japan. Length 151 to 155 mm. Two examples.

U. S. N. M., no. 56244. Luzon, Philippines. Bureau of Fisheries (3745). Length 96 mm. As Glossogobius puntang. Dorsal spines 6.

U. S. N. M., no. 56408. Shanghai, China. P. L. Joiy. Length 38 to 54 mm. Three examples. As Rhinogobius platycephalus.

U. S. N. M., no. 6343. Hong Kong, China. W. Stimpson. Length 72 mm. As Gobius platycephalus.

U. S. N. M., no. 86032. China. A. de C. Sowerby. Length 48 to 51 mm. Four examples. D. VI—9; A. 9; scales 32 in lateral series.

U. S. N. M., no. 12579. Madras, India. British Museum. Length 178 mm.

U. S. N. M., no. 48604. Cochin, China. Lyons Museum. Length 186 mm.

U. S. N. M., no. 49275. Pulo Inobur, Amamba Islands. August 26, 1899. Dr. W. L. Abbott. Length 125 to 129 mm. Two examples.

U. S. N. M., no. 56047~~44~~. Philippines. Philippine Commission. Bureau of Fisheries (4247). Length 233 mm.

U. S. N. M., no. 56114. Philippines. Philippine Commission. Bureau of Fisheries (4248). Length 178 mm.

U. S. N. M., no. 56001. Philippines. Philippine Commission. Bureau of Fisheries (4128). Length 233 mm.

1445

U. S. Nat. Mu., no. 56115. Philippines. Philippine Commission. Bureau of Fisheries (3725). Length 185 mm.

U. S. N. M., no. 59009. Rio Grande, Mindanao, Philippines. Bureau of Fisheries (4251). Dr. Morse. Length 115 mm. to end of broken caudal.

U. S. N. M., no. 72224. Aparri, Philippines. R. C. McGregor. Length 103 mm.

U. S. N. M., no. 72225. Iloilo, Philippines. R. C. McGregor. Length 128 mm.

U. S. N. M., no. 72725. Batavia, Java, in 27 fathoms. April 2, 1909. D. Bryant and W. Palmer. Length 167 mm.

U. S. N. M., no. 83086. Manila, Philippines. Wilkes Exploring Expedition. Length 213 mm.

1446

U. S. N. M., no. 86496. Nanking, China. A. de C. Sowerby. Length 47 to 67 mm. Fifteen examples.

U. S. N. M., no. 86961. Foochow, China. A. de C. Sowerby. Length 104 mm.

U. S. N. M., no. 87965. Batavia, Java. October 1925. Lieut. H. C. Kellers. Length 125 mm.

U. S. N. M., no. 101217. Chandra Dam, Perak, Malay Peninsula. March 1934. A. C. J. Herre. Length 228 mm.

U. S. N. M., no. 102483. Garo River, Panay, Philippines. April 2, 1929. Lieut. H. C. Kellers. Length 128 mm.

U. S. N. M., no. 102704. Garo River, Panay. April 2, 1929. Lieut. H. C. Kellers. Length 112 to 202 mm. Two examples.

U. S. N. M., no. 102, 771. Iloilo, Panay Island, Philippines. April 17, 1929. Lieut. H. C. Kellers. Length 185 mm.

U. S. N. M., no. 102, 772. Iloilo, Panay. April 17, 1929. Lieut. H. C. Kellers. Length 93 to 160 mm. Two examples.

U. S. N. M., no. 102, 773. Iloilo, Panay. April 7, 1929. Lieut. H. C. Kellers. Length 140 to 182 mm. Three examples.

U. S. N. M., no. 103358. Singora Strait, Peninsular Siam. June 27, 1929. Dr. H. M. Smith. Length 172 mm.

U. S. N. M., no. 103359. Pakanam Wain, South East Siam. May 21, 1934. Dr. H. M. Smith. Length 394 mm.

U. S. N. M., no. 49903. Wakanoura, Kii, Japan. D. S. Jordan and J. O. Snyder. Length 103 to 167 mm. Seven examples.

U. S. N. M., no. 59577. Hendei-gawa, Hendai, Japan. June 10, 1903. Dr. H. M. Smith. Length 178 mm.

U. S. N. P., no. 60250. St. Lucia Lake, 20 miles up, North Zululand. 1931. H. W. Bell Marley. Length 57 mm. Type of Glossogobius tentiformis.

U. S. N. P., nos. 60248 and 60249. Natal. 1931. Length 51 to 57 mm. H. W. Bell Marley.

Paratypes of Glossogobius tentiformis

Glossogobius biocellatus Evermann and Seale, Bull. Bur. Fisher., vol. 26, p. 104, 1906 (Bacon). — Smith and Seale, Proc. Biol. Soc. Wash., vol. 19, p. 81, 1906 (Mindanao). — Jordan and Richardson, Philippine Journ. Sci., p. 49, 1910 (reference). — Kendall and Goldsborough, Mem. Mus. Comp. Zool., vol. 26, p. 320, 1911 (Malsemo, Guamotus). — Herre, Gobies of Philippines, p. 156, pl. 12, fig. 3, 1927 (Mission, Urigan, Agno R.; Subic; Malabon; Manila; Lake Taal; Pansipit R.; Hagnbu; Arimbay R.; Puru; Mangarin; San Jose; Kapiz; Loboc; Cebu; Dumaguete; Lasay; Cagayan; Caldera Bay; Zamboanga; Rio Grande; Davao; Salmal R.; Balabac; Hong Kong). — McCulloch and Ogilby, Rec. Austral. Mus., vol. 12, no. 10, p. 237, July 14, 1919 (Finches' Creek, Cooktown, North Queensland). — McCulloch and Whitley, Mem. Queensland Mus., vol. 8, pt. 2, p. 171, July 7, 1925 (reference).

— Fowler, Journ. Bombay Nat. Hist. Soc., vol. 32, no. 4, p. 710, May 31, 1928 (Ceylon); vol. 33, no. 1, p. 0, Sep. 30, 1928 (Bombay); Mem. Bishop Mus., vol. 10, p. 402, 1928 (Makemo); Occas. Pap. Bishop Mus., vol. 9, no. 18, p. 15, Feb. 1932 (Apia); Mem. Bishop Mus., vol. 11, no. 6, p. 443, 1934 (reference). — Herre, Fisher Herre 1931, Philippine Exped., p. 83, 1934 (Banang Sur; Nasugbu; Lake Bombon; Cebu; Dumaguete; Jolo). — Tomiyama, Jap. Journ. Zool., vol. 7, no. 1, p. 87, 1936 (Philippines; Hawaii). — Royas and Martin, Dep. Agric. Comm. Manila, Tech. Bull. 6, p. 229, 1937 (reference).—

Glossogobius biocellatus Fowler, Proc. Acad. Nat. Sci. Philadelphia, vol. 79, p. 291, 1927 (Orani) (error).

Gobius sublitus Cantor, Journ. Asiatic Soc. Bengal (Cat. Malay. Fish.), vol. 18, pt. 2, p. 1163, 1849 (1850) (type locality, Penang). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 24, 1861 (type).

Glossogobius sublitus Fowler, Cat. Malaya Fish., p. 216, 1937 (Malaya).

Glossogobius vaisiganis Jordan and Seale, Bull. Bur. Fisher., vol. 25, p. 403, fig. 93, 1905 (type locality, Vaisigano River, Apia, Samoa). — Duncker, Mitt. Nat. Mus. Hamburg, vol. 29, p. 252, 1911 (Panadhwe and Benthota; Apia; Tamatave R., Madagascar; Malacca; Singapore; Formosa; New Guinea; New Pommerania).

1453

Glossogobius aglesteri Jordan and Seale, Proc. U. S. Nat. Mus., vol. 28, p. 798, fig. 16, 1905 (type locality, Negros, Philippines). — Seale, Philippine Journ. Sci., vol. 5, no. 4, p. 286, 1910 (Vandalsan).

Glossogobius albacopus Jordan and Richardson, Mem. Carnegie Mus., vol. 4, no. 4, p. 200, pl. 74, 1909 (type locality, Takao, Formosa). — Jordan and ~~Tanaka~~, p. 247, 1927 ~~(Tatsushi, Ryukyu)~~.

Depth 5 to 6 1/2; head 3 to 3 1/4. Snout 3 1/4 to 4 in head measured from snout tip; eye 4 2/5 to 5, 1 1/4 to 1 1/2 in snout, greatly exceeds narrow interorbital; maxillary reaches 1/2 in eye or back till opposite hind eye edge, length 2 to 2 1/5 in head; mouth begins level with lower eye edge, little inclined, lower jaw protruding; upper teeth with outer and inner rows enlarged; tongue deeply notched; interorbital width 3 to 4 in eye.

Scales 28 to 30 in lateral series; 9 transversely below second dorsal; 14 to 17 predorsal. Head largely naked, except scales invading from predorsal and variable scaly area on upper part of opercle. Papillae little developed on sides of head. Scales much smaller on predorsal and trunk than on tail.

D. VI – I, 9, second dorsal spine 2 to 2 1/2 in total head length, first branched dorsal ray 1 4/5 to 2; A. I, 8, first branched anal ray 2 7/8 to 3, seventh ray 2 1/4 to 2 1/3; caudal 1 1/4 to 1 1/2, convex behind; least depth of caudal peduncle 3 1/4 to 3 1/3; pectoral 1 3/5 to 1 2/3, rays 16 or 17; ventral 1 3/5 to 1 2/3.

Brown, paler below. Five or 6 dark blotches along side, and several dark, narrow, horizontal lines along rows of scales. Head rather dark brown mottled. Usually light bar from eye to mouth. First dorsal dark brown, with broad pale basal markings. Dark to black blotch on first membrane, between first and second spines; black pale edged ocellus between fifth and sixth spines. Second dorsal brown, dotted minutely

with blackish, formed as rows of irregular dark spots. Anal dark brown, rays paler and with whitish spots. Caudal brown, with 3 or 4 dark cross bands, most distinct on lower half of fin. Pectoral with dark brown horizontal basal bar below. Ventrals with transverse darker bars.

Madagascar, India, Malaya, East Indies, Philippines, China, Formosa, Queensland, Melanesia, Polynesia. It appears to be a small species, none of my specimens exceeding ~~reaching~~ 97 ~~102~~, mm., ~~though Ft erroneously gives 108 mm and says it matures when still rather small.~~ As viewed from above the extension from the upper part of the ~~eye~~ iris into the pupil of the eye is an unfailing character for its distinction.

1457

Six example. Batangas, Batangas River, Luzon. June 7, 1908. Length 31 to 63 mm.

One example. Buena Vista, Guimaras Island. January 14, 1909. Length 69 mm.

Three examples. Cebu market, Cebu. March 20, 1909. Length 50 to 72 mm.

Four examples. Cebu market. March 22, 1909. Length 62 to 81 mm.

One example. Chase Head, village Endeavour Strait, Palawan. December 22, 1905. Length 40 mm.

Two example. Cotabato below mouth of river, Cotabato, Mindanao. May 20, 1908. Length 61 to 97 mm.

19382. Iloilo market, Panay. March 28, 1908. Length 88 mm.

Two examples. Iloilo market. June 1, 1908. Length 58 to 65 mm.

Ten examples. Iloilo River, on shore above, Panay. June 2, 1908. Length 34 to 76 mm.

Two examples. Mahinog, Camiguin Island, brackish water. August 3, 1909. Length 59 to 73 mm.

One example. Malampaya River, Palawan. December 26, 1908. Length 13 mm.

One example. Malinao River. April 2, 1909. Length 56 mm.

One example. Malugar River, Malavgao in brackish water, Mindoro. December 11, 1908. Length 73 mm.

One example. Manila market, Luzon. December 12 - 15, 1907. Length 72 mm.

7755. Manila market. January 17, 1908. Length 92 mm.

11881. Manila market. March 14, 1908. Length 96 mm.

9067 to 9069. Manila market. June 24, 1908. Length 64 to 69 mm.

Four examples. Iiato River. June 17, 1909. Length 47 to 67 mm.

Six examples. Paluan River, Mindoro. December 11, 1908. Length 50 to 71 mm.

Two examples. Pasacao River. March 9, 1909. Length 70 to 72 mm.

One example. Port San Pio Quinto, Caniguin Island. November 11, 1908. Length 40 mm.

1449

Glossogobius biocellatus (Valenciennes)

Gobius biocellatus Valenciennes, Hist. Nat. Poiss., vol. 12, p. (55) 73, 1837 (type locality, Pondicherry). — Bleeker, Verh. Batavia. Genoot. (Nat. Schth. Bengal), vol. 25, p. 50, 1853 (reference). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 20, 1861 (copied).

— Day, Fishes of India, pt. 2, p. 289, pl. 63, fig. 8, 1876; Fauna British India, Fish., vol. 2, p. 258, 1889.

— Weber, Siboga Exped., vol. 57, Fische, p. 470, 1913 (Bima; Siam). Zool. Ergebn. Reise Niederl. Ost-Indien, vol. 3, p. 410, 1894;

1459

One example. Pucot River, Marivales. January 29, 1909. Length 48 mm.

Six examples. Ragay River, Ragay Gulf, Luzon. March 10, 1909. Length 30 to 58 mm.

One example. Libugan Bay near mouth of Bahali River. December 28, 1908. Length 54 mm.

One example. Pandaluan Bay, Borneo. March 24, 1908. Length 78 mm.

One example. Macasser, Celebes, Dutch East Indies. December 26, 1909. Length 70 mm.

Two example. Macasser. December 27, 1909. Length 75 to 76 mm.

21322. Obi, Boero Island. December 9, 1909. Length 80 mm.

U. S. N. M., no. 56009. Rio Grande, Mindanao. Bureau of Fisheries (4260). Philippine Commission. Length 57 mm. to end of broken caudal.

U. S. N. M., no. 65839. Inakemo, Guamotus. Bureau of Fisheries ~~1899-1900~~ Albatross Expedition 1899-1900. Length 28 mm.

U. S. N. M., no. 102,832. Iloilo, Philippines. March 29, 1929. Lieut. ~~H.~~ C. Kellers. Length 87 mm.

Genus Waitea Jordan and Veale

Waitea Jordan and Veale, Bull. Bur. Fisher., vol. 25, p. 407, 1905 (1906). (Type Gobius mystacinus Valenciennes, orthotypic.)

Rhinogobius (Kner) H. M. Smith, Journ. Siam. Soc. Nat. Hist., vol. 8, No. 4, p. 255, June 30, 1932. (Type Rhinogobius nagoyae Kner) H. M. Smith, monotypic.)

Rhinogobius (Kner) H. M. Smith, op. cit., p. 258, June 30, 1902. (Type Rhinogobius nagoyae H. M. Smith, monotypic.)

Body elongate, compressed. Head compressed, rather large. Snout short, obtuse. Eye advanced, in front half of head, rather large. Maxillary variable, reaches below eye or beyond to or nearly to hind angle of preopercle. Mouth little inclined, jaws subequal. Upper teeth in row of even, wide set ones each side 16 to 21, and posteriorly narrow band or row of minute teeth; lower teeth in several rows, outer more or less horizontal anteriorly in jaws and lateral more erect, 36 to 38 each side and an inner row of widely set teeth. Tongue rounded. Gill openings lateral. Isthmus broad. Scales 40 to 50 in lateral series, cycloid to weakly ctenoid. Predorsal scaly, rest of head naked. First dorsal with 6 spines, of which anterior or median longest.

Genus Inahidolia H. M. Smith

Inahidolia H. M. Smith, Journ. Siam Soc. Nat. Hist., vol. 8, no. 4, p. 255, June 30, 1932. (Type Inahidolia normani H. M. Smith and Koumans) H. M. Smith, monotypic.

Rictugobius (Koumans) H. M. Smith, op. cit., p. 258, June 30, 1932. (Type Inahidolia normani H. M. Smith, monotypic.)

Second dorsal with 11 to 14 rays. Anal with 10 to 15 rays. Caudal long, pointed, longer than head. Pectoral large, without detached rays. Ventrals united, oblong.

Best known by the forms with the maxillary extended far back beyond the eye.

1464

Waitea mystacina (Valenciennes)

(Gobius mystacinus Valenciennes), Hist. Nat. Poiss., vol. 12, p. (94) 124, 1937 (type locality, Java); — Kaumans), Prelim. Rev. Gobioid Fishes, p. 67, 1931 (Java). — Günther, Cat. Fish. Brit. Mus., vol. 3, p. 48, 1861 (copied).

Waitea mystacina Jordan and Veale, Bull. Bur. Fisher., vol. 25, p. 407, fig. 94, 1905 (1906) (Samoa); — Fowler, Mem. Bishop Mus., vol. 10, p. 415, 1928 (Society Islands); — Tomiyama, Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 84, 1934 (Den Pasar, Bali). — Kaumans, Zool. Mededel. Rijks Mus. Nat. Hist. Leiden, p. 133, 1935 (type of Urohidolichthys japonicus); Jour. Zool., vol. 7, no. 1, p. 77, fig. 28, 1936 (Nagasaki; type of Waitea parvida Tanaka).

— Jordan and Richardson, Bull. Bur. Fisher., vol. 27, p. 279, 1908 (Aparri); Philippine Journ. Sci., p. 50, 1910 (reference). — Herre, Gobies of Philippines, p. 208, 1927 (Iloilo).

Gobius pulverulentus (Kuhl and Van Hasselt) Valenciennes, Hist. Nat. Poiss., vol. 12, p. 94, 1837 (name in text).

Gobius maxillaris Macleay, Proc. Linn. Soc. New South Wales, vol. 2, p. 357, fig. 2, 1878 (type locality, Port Darwin).

Waitea maxillaris Mc Culloch and Ogilby, Rec. Austral. Mus., vol. 12, no. 10, p. 250, pl. 30, fig. 3 (type). — Mc Culloch, Austral. Mus. Mem., no. 5, pt. 3, p. 376, Nov. 28, 1929 (reference).

Waitea parvida Tanaka,

p. 567, 1915 (type locality, Nagasaki).

~~Mahidolia normani H. M. Smith~~ 1466

Mahidolia normani H. M. Smith, Journ. Siam Soc. Nat. Hist., vol. 8, no. 4, p. June 30, 1932 (type locality, Chantaburi River). — Nivatti, Index Fish. Siam, ~~1933~~ p. 157, 1936 (Canthaburi, Laem Sing).

Depth 4 3/5; head 3 2/5, width 2. Snout 3 2/5 in head from snout tip; eye 4, 1 1/5 in snout, 4 times interorbital; maxillary long, extends back beyond eye or nearly 3 /5 in total head length; mouth large, lower jaw very slightly protrudes; teeth in jaws biserial, outer series slender, curved slightly and little longer but no canines; tongue broadly rounded in front, with slight median notch; interorbital very narrow, bony. Gill rakers 0+15 (on second arch), 1 1/2 in gill filaments, which 2 in eye.

Scales 25+3 in median lateral series; 7 transversely from soft dorsal origin. Head naked, except occipital region. Scales large on trunk and tail, caducous. Scales with 23 to 28 basal striae; apical denticles 34 to 50; circuli rather fine.

D. VI—I, 9, fourth spine with terminal filament nearly long as head, sixth ray 1 1/4; A. I, 11, tenth ray 1 1/12; least depth of caudal peduncle 3 1/5; pectoral 1; ventral 1 1/8; caudal 2 1/2 in rest of fish.

Brown, paler below. Back mottled with darker and along side 5 median large brownish blotches, last at caudal base. Dorsals and caudal barred finely with dusky. Paired fins brown, latter becoming dusky terminally.

East Indies, Philippines, Siam, Japan, Northern Territory, Australia, Polynesia.

1468

Two examples. Cebu market.
March 22, 1909. Length 64 or 65 mm.

1469

P. 11763. Iloilo market. June 2, 1908.
Length 72 mm.

P. 8487 [1391]. Port Dupon, brackish river,
Leyte. March 17, 1909. Length 76 mm.

1470

Genus Gladiogobius Herre

Gladiogobius Herre, Copeia, no. 1, p. 23, April 3, 1933. (Type Gladiogobius ensifer Herre, monotypic.)

= Brachyeleotris ensifera Bleeker,